

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3494
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2501 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application) -
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-02C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☐ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: E010, E106

10. Equipment Name: 4 Pedestal Grinders - Cincinnati Mod. HER Items 7-22-23-24
and 1 Belt Grinder

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☒ YES ☐ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.



10946595

VWPS011450

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

375 Lb./Hr.

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:

CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Permit Fee _____ Hours Technical Research and Computer Time _____

Inspection Approval _____ Date Inspected: _____

Reviewed by Supervisor _____

Check Received. Amount _____ Check Number _____ Date _____

Updated on Computer _____

Registered in Suspense File _____

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

PROCESS EQUIPMENT APPLICATION

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): 4 Pedestal Grinders - Cincinnati
Mod. HER Items 7-22-23-24 and 1 Belt Grinder
3. Type of Process: Abrasive cleaning.
4. Major Raw Materials Processed: Brass Casting

5. Date of installation, initial start-up, or alternation (such that potential emissions were increased) of equipment or device for which permit is applied for:

☐ Before January 1, 1973 - Schedule 1

☒ After January 1, 1973 - Schedule 2

6. Process Weight: 375 lbs/hr

(This is the total weight of all materials introduced into the process expressed in lbs/hr.)

7. Control Equipment Data:

A. ☐ Emissions Uncontrolled

B. ☒ Baghouse (File Form E102)

C. ☐ Wet Collecting Device (File Form E103)

D. ☐ Electrostatic Precipitator (File Form E104)

E. ☐ Inertial Separators (File Form E105)

F. ☐ Other - Specify _____

8. Control Equipment Efficiency for each pollutant emitted by this equipment (from appropriate Form E102, E103, E104, E105, E107 or enter zeros if A is checked in Item 7):

		% EFFICIENCY
Other:	Particulates	99%
	SO _x	_____
	NO _x	_____
	CO	_____
	Hydrocarbons	_____
	_____	_____

9. Actual Particulate Emissions:

A. Uncontrolled Emissions: 0.3 lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{.003} \text{ lbs/hr}$

10. Actual Sulfur Oxide Emissions:

N/A.

Specify air required for process: _____ SCFM

A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}} \text{ lbs/hr}$

11. Allowable Nitrogen Oxide Emissions:

N/A

A. Nitric Acid Plants Emission Limitation (Allowable emissions will be in Item 7 on Form E101): _____ lbs/hr as NO₂

B. All other process equipment emission limitations: ☐ No Requirement

12. Nitrogen Oxide Emissions (lbs/hr as NO₂):

N/A

A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}} \text{ lbs/hr}$

13. Other Air Contaminant Emissions - Specify:

N/A

AIR CONTAMINANT

AMOUNT EMITTED (lbs/hr)

☐ The values shown were determined by actual stack test.
(Submit a copy of stack test with full details).

☐ The values shown were estimated.
(File Form E106 for each pollutant shown).

14. Those emissions indicated in Item 13 may at times under normal operating conditions cause (check one or more):

☐ Odors ☐ Eye Irritations
☐ Property Damage ☐ Other nuisances outside of plant property
☐ Health Effects ☒ No environmental damage

15. Emission Point Data:

Stack Height (emission point) above ground:	20	ft
Ground Elevation above sea level at stack base:	660	ft
Stack Diameter:	1.25	ft
Volume of gas discharged into atmosphere:	4500	cfm
Gas exit temperature:	Ambient	°F

16. Average Equipment Operating Time:
- | | | |
|-----------|----|-------|
| A. Daily | 8 | hours |
| B. Weekly | 5 | days |
| C. Yearly | 48 | weeks |

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION-CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

James D. Ball
Signature

Title: Plant Engineer

Date: 11-5-90

NOTE: Equipment must also meet Visible Emission Code.

DO NOT WRITE BELOW THIS LINE

Information approved and entered on Permit Inspection Form (Engineer)

lbs/hr (allowable particulate emissions) PPM by volume as SO₂

UTM Coordinates of Company: EW NS

This form corresponds to permit number:

Special Notations:

POLLUTION ESTIMATION FORM

FORM: E106

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY

2. Equipment Name (as shown on Line 10, Form E001): 4 Pedestal Grinders - Cincinnati
Mod. HER Items 7-22-23-24 and 1 Belt Grinder

3. Type of pollutant for which estimation is made: Particulate

4. Pollutant Emission Factor (PEF): 1.6 Lbs./Ton = .0008 Lbs./Lb.
 (Give value & units in lbs/ton,
 lbs/lbs, lbs/gal, gr/ft³, etc.)

Source of Emission Factor: GCA Corp. study in 1977

5. Uncontrolled Pollution Emission Rate:

$$\frac{.0008}{(\text{PEF from Item 4})} \times \frac{375 \text{ Lbs./Hr.}}{(\text{Give operating rate for this equipment and the appropriate units in either lbs/hr, tons/hr, gal/hr or CFM})} = \frac{0.3 \text{ Lbs./Hr.}}{(\text{Give value \& units})}$$

6. Uncontrolled Pollution Emission Rate: 0.3 lbs emitted/hr
 (from Item 5 convert to lbs/hr)

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail To:
 CHATTANOOGA-HAMILTON COUNTY
 AIR POLLUTION CONTROL BUREAU
 3511 Rossville Boulevard
 Chattanooga, Tennessee 37407

Company Official: James Ballard

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____

United States Pipe and Foundry Company, Inc.
Chattanooga Valve and Fittings Plant
Environmental Prospectus

Foundry operations have been conducted on this site since approximately 1882. This foundry joined the U. S. Pipe group of foundries in 1899. In 1936 the Chattanooga foundry became exclusively a fittings production facility and in 1970 the valve and hydrant production were added through the purchase and relocation of A. P. Smith Manufacturing of East Orange, NJ.

The present foundry operations on this 85 acre site are divided into three (3) categories and can be identified by referring to the map attached as Figure 1. Area A is the Valve and Hydrant assembly operation and includes or has included the following processes on this site:

- 1) brass foundry
- 2) green/shell sand molding operations
- 3) machining
- 4) painting, wet and dry coating applications
- 5) packaging and product storage.

Area B is the Fittings plant and includes or has included the following operations on this site:

- 1) raw material storage in piles
- 2) metal melting/storage in cupolas and electric furnaces
- 3) green/nobake sand molding operations
- 4) polyurethane/shell/airset core making operations
- 5) core/mold coating
- 6) mold pouring/cooling/shakeout process
- 7) machining
- 8) painting
- 9) product packaging/storage.

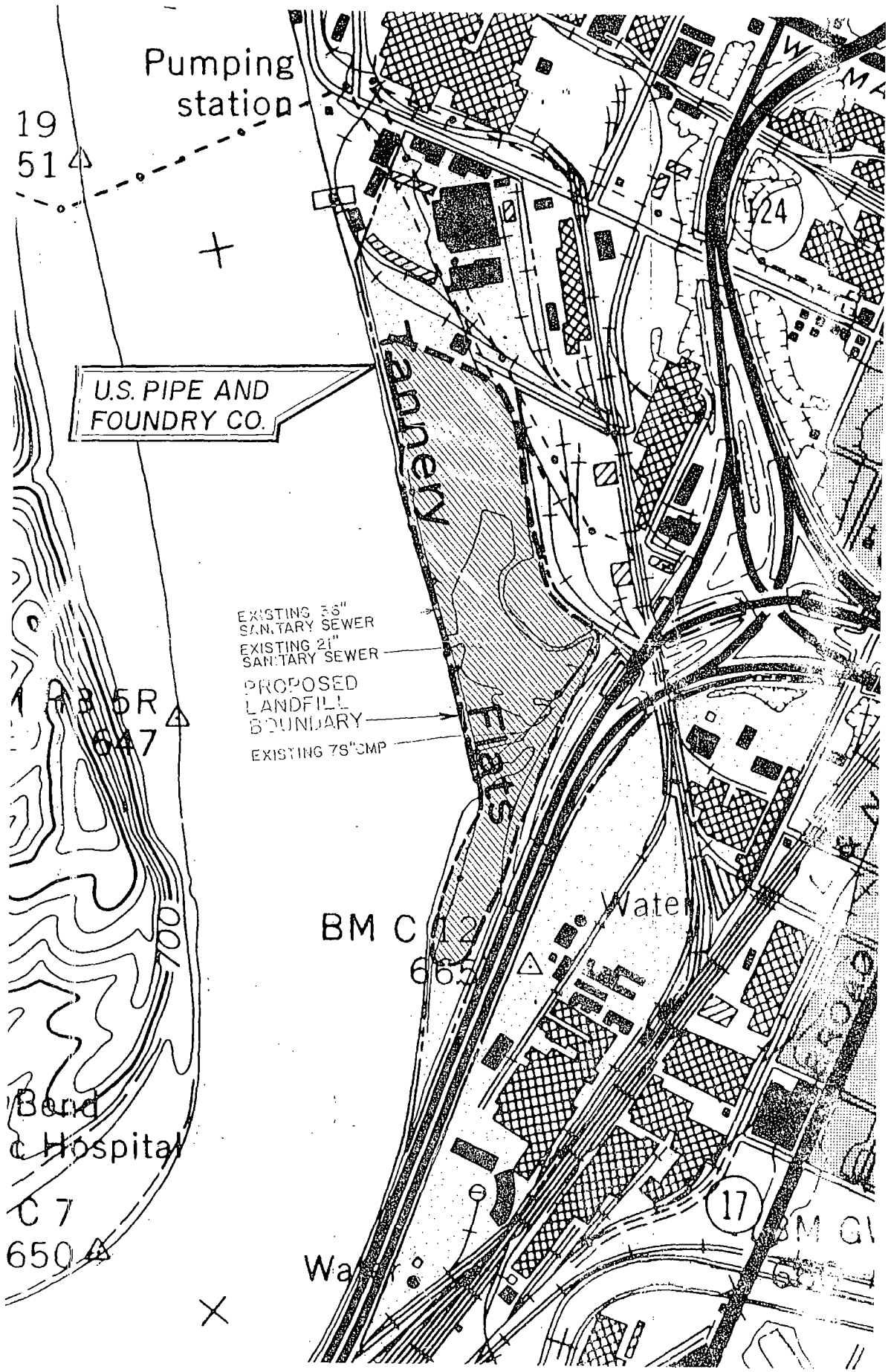
Area C is an active landfill for foundry waste.

The entire facility operates under an air permit issued by the Chattanooga-Hamilton County Air Pollution Control Bureau (CHCAPCB). The permit is a major source permit # 47-065-3321 issued April 9, 1999 and must have an application filed for renewal no later than September 9, 2003. All manufacturing operations and ancillary operations generating or possibly generating stack or fugitive air emissions are subject to conditions in this permit. Fees are associated with maintenance of the permit and amount to \$20-30,000 based on operational throughput. When the application was submitted to the CHCAPCB and EPA, a request to divide the plant into two separate operations was attempted. This would have allowed the Valve and Hydrant facility to be a Synthetic Minor Source, too small for a major source operating permit, thus avoiding the extensive

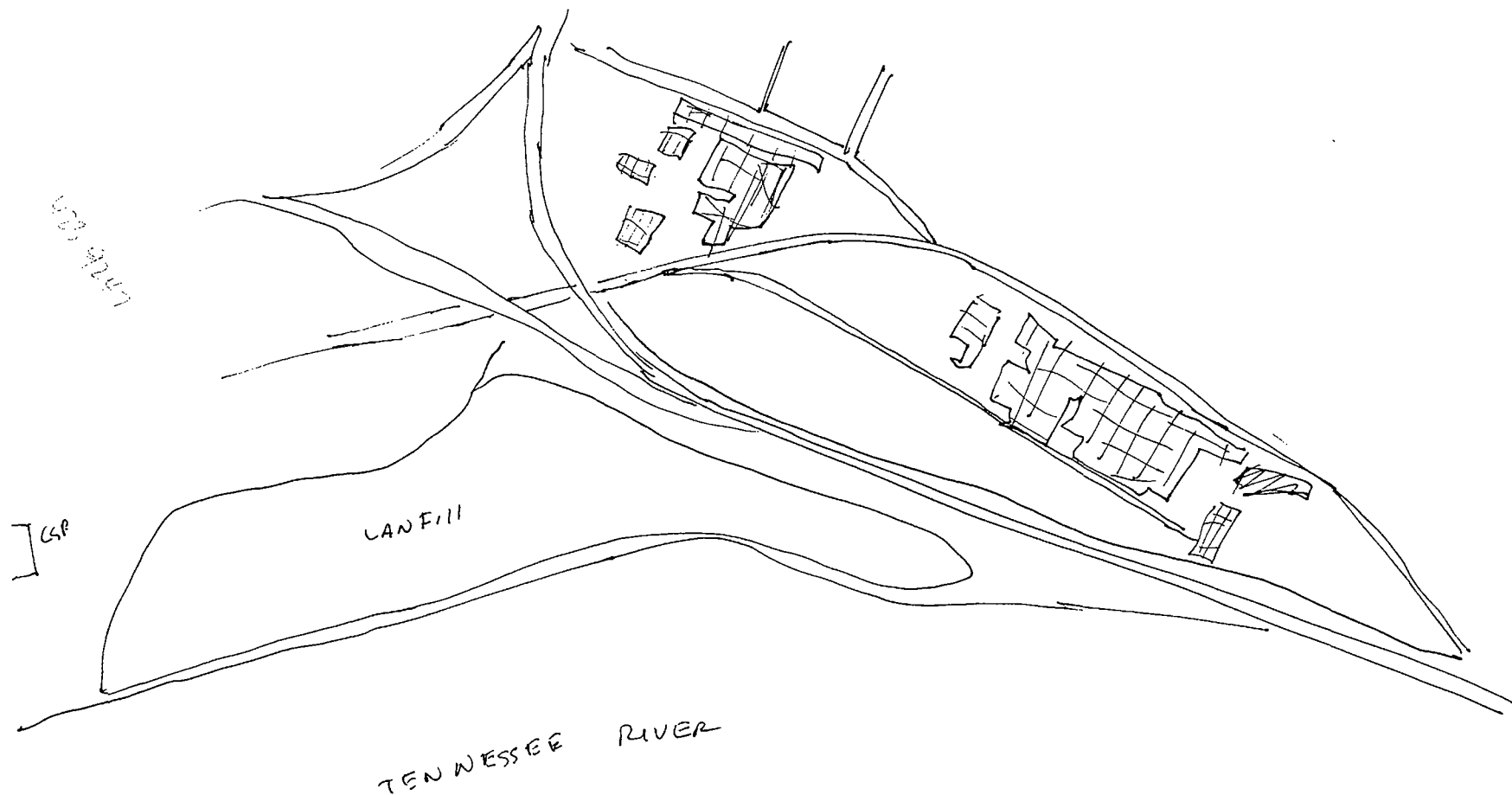
operating conditions, monitoring and recordkeeping requirements that all Title V permits require. EPA did not allow this since the Valve and Hydrant plant was determined to be "contiguous" and, also, solely dependant on the Fittings plant for raw materials (castings) for its operation. A copy of this permit can be provided if necessary.

The active landfill (Area C) operates under permit number IDL 33-0102, as issued by the Tennessee Department of Environment and Conservation (TDEC) on July 11, 2000. The permit authorizes the disposal of non-hazardous industrial solid wastes generated at U.S. Pipe's Chattanooga facilities. The current permit provides for an ultimate disposal volume corresponding to an approximate 27 year functional life from the present. Note, however, that the functional life of the landfill could be substantially extended if beneficial reuse of spent foundry sand could be realized.

TDEC requires that U.S. Pipe maintain financial assurance in order to cover the costs of landfill closure and post-closure care. U.S. Pipe established an irrevocable letter of credit (LC number 3030179) with Bank of America on October 10, 2000 to fulfill this permit requirement. The current amount of financial assurance required by TDEC for closure is \$112,611.69 and for post-closure is \$379,778.43; or \$492,390.12 total.

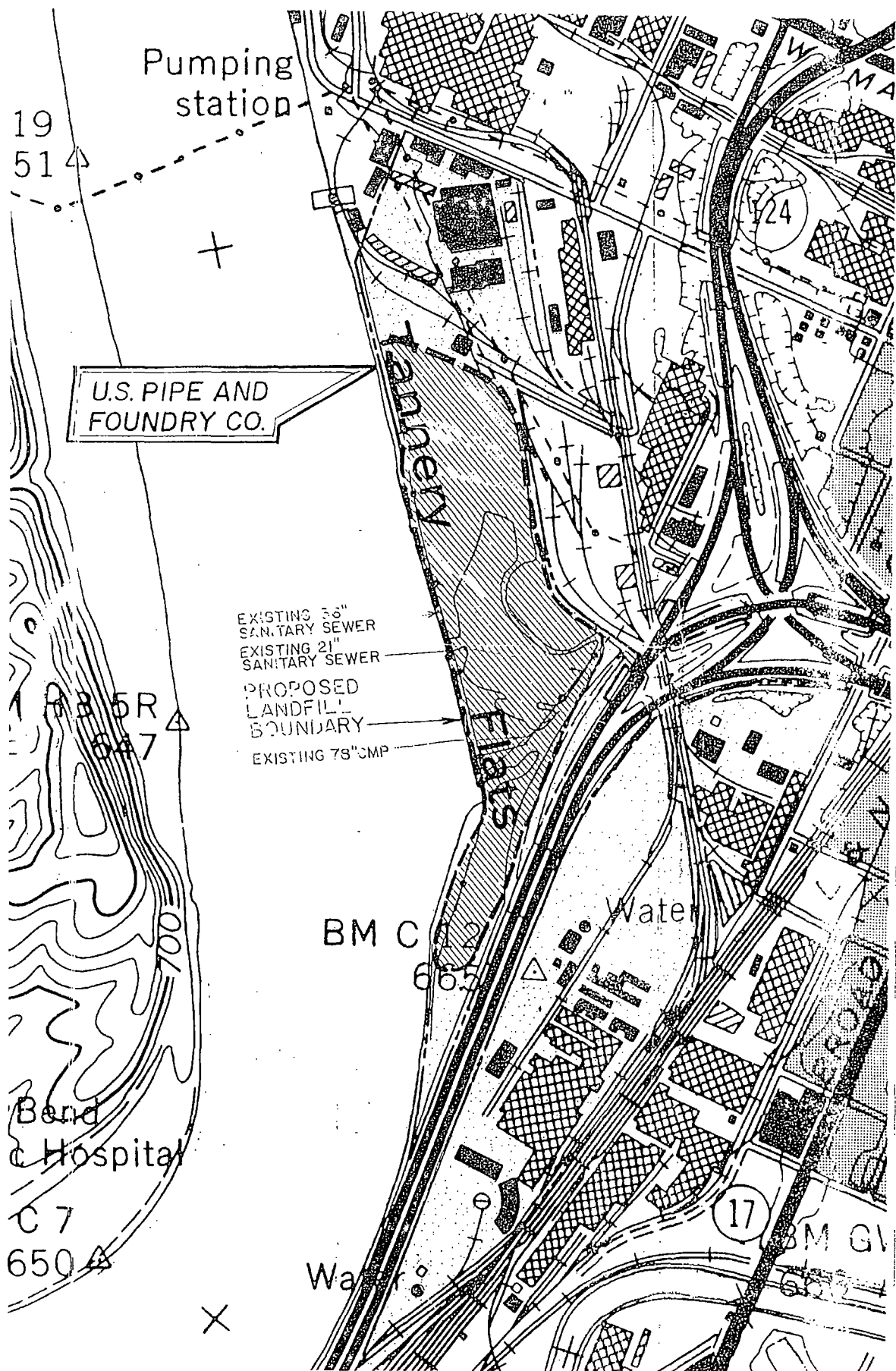


MWP/S011458



1" = 400 FT

MWPS011459



2 - Fitting Area -

Raw material storage in piles / silos
metal melting of ~~2000~~
Green/^{no bake} sand molding operations
Polyurethane no bake core making
Shell coated sand core making
Mold pouring / cooling / shakeout
part machining
Grinding / cleaning of castings

Dale McCullough SOU.PRE.

2 / ~~week~~ BFI

3886
phil

CV & F

Total 85

30 Landfill

1000 T / wk new sand

4 T / wk new sand

Sig.

6 monitoring wells on landfill
#1 well
river at city discharge

#2 by Siskin dirty high Fe phenol
cleaner at #1

#5 at Siskin

#6 between 6 and 1 then 4 and
3 on landfill

on river bank 24" concrete
sewer leaks into the monitoring
wells

#3 & 6 don't mean a thing —
comes from city sewer

U.S. Pipe & Foundry Company
Chattanooga Plant
Scenario Development

	1	2	3	4	5	6	7	8
	Steady State Base Case	Outsource V & H	Outsource V & H Leave Small Diameter Fittings	Sell V & H	Sell V & H Leave Small Diameter Fittings	Sell V & H Leave Small Diameter Fittings Invest in Intermediate and Large Diameter	Outsource V & H Leave Small Diameter Fittings Outsource T.R. Flex/Intermediate and Large Diameter	Sell V & H Leave Small Diameter Fittings Outsource T.R. Flex/Intermediate and Large Diameter
Valves & Hydrants	Steady State	Outsource $\left(\begin{smallmatrix} 1 \\ 1.9 \text{ mm} \end{smallmatrix} \right)$	Outsource	Sell	Sell	Sell	Outsource	Sell
Fittings:								
Small Diameter	Steady State	Steady State	Leave	Steady State	Leave	Leave	Leave	Leave
Intermediate	Steady State	Steady State	Steady State	Steady State	Steady State	Invest	Outsource	Outsource
Large	Steady State	Steady State	Steady State	Steady State	Steady State	Invest	Outsource	Outsource
T.R. Flex	Steady State	Steady State	Steady State	Steady State	Steady State	Invest	Outsource	Outsource

Note: No Case, besides the Base Case, includes a Steady State Scenario for Valves & Hydrants

Note: No Case includes a Sell condition for Small Diameter Fittings

Note: No Case includes a capital reinvestment for Small Diameter Fittings

Note: No Case includes a Sell condition or Leave condition for T.R.Flex, Intermediate and Large Diameter Fittings

Note: Outsource of V & H includes two subsets: Castings-Only and Complete with Machining

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2501 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400299-03C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Two (2) Rotoblast Barrels, Pangborn No. 6GN-1M-SN6-GN-1M-668 and GN-1M-668

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

778 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

*File
Sole to Siskin/
Romer*

**PHASE I
ENVIRONMENTAL SITE ASSESSMENT
UNITED STATES PIPE & FOUNDRY CO.
PROPERTY - CHESTNUT STREET
CHATTANOOGA, TENNESSEE**

MAY 30, 2002

*Discussed with
Mike St. Charles
and John F. Pleasant
on 7/23/02 -*

Prepared For:

**ROBMER PARTNERS
ATTN.: GENE SHILES, ATTORNEY AT LAW
SPEARS MOORE REBMAN & WILLIAMS
6TH FLOOR, PIONEER BUILDING
P.O. BOX 1749
CHATTANOOGA, TENNESSEE 37402**

*Note: Although on page 18
G & M left a
scuff on the
asphalt, but only
2 PA could get
past the Release
& AS IS license
- the deal.*

Presented by



**745 South Church St., Suite 205
PO Box 2968 (37133-2968)
Murfreesboro, Tennessee 37129
(615) 895-8221 • (615) 895-0632 FAX**

File Number 341-09

MWPS011466

EXECUTIVE SUMMARY

As requested by Mr. Gene Shiles, attorney for Robmer Partners, Griggs & Maloney, Inc. (G&M) conducted a Phase I Environmental Site Assessment (ESA) of a 0.881-acre property located on the east side of Chestnut Street and north side of West 25th Street in Chattanooga, Hamilton County, Tennessee (Subject Property). The Subject Property includes Hamilton County Tax Map 145N, Parcel 4. United States Pipe & Foundry Co. owns the Subject Property. The Subject Property currently supports a paved parking lot.

This report presents the details of the Phase I Environmental Assessment of the Subject Property. This Phase I ESA was conducted in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) E 1527-00 *Standard Practice for Phase I Environmental Site Assessments: Environmental Site Assessment Process* guidelines.

Environmental assessments are typically divided into three (3) sequential phases. These phases include the following:

- Phase I: Review of available historical records; interviews with persons knowledgeable of the site; and a visual inspection of the site, preferably a perambulatory reconnaissance or "walk-over" of the site.
- Phase II: Selective sampling of areas suspect of being potential environmental liabilities.
- Phase III: Develop strategy for site utilization and/or potential environmental remediation or clean up.

The initiation of each phase is dependent upon the findings of the previous phase. For example, at a minimum, each site investigation includes a Phase I ESA record review, knowledgeable person interview, and site reconnaissance. If the reviewed information and inspections indicate no environmental recognized environmental conditions¹, then there is no need to proceed with Phases II and III investigations.

However, the Phase I ESA may identify an area, or areas, of the property which in the past, currently, or which may reasonably be expected to pose future environmental liabilities. Such a finding would typically result in a recommendation for collecting media (e.g., building materials, soil, groundwater, surface water) samples and subsequent analysis as part of a Phase II investigation. The Phase II investigation would be designed to confirm or refute the presence of substances of environmental concern on the property.

¹ A *recognized environmental condition* is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

EXECUTIVE SUMMARY (CONTINUED)

If a Phase II Assessment indicates environmental concerns that need further investigation or corrective action, then a Phase III Assessment may be necessary. Phase III is a more comprehensive sampling, assessment, and site remediation program, which may allow for estimating the remedial actions and capital/operating costs for the property.

The generally level Subject Property is completely paved and is surrounded by a chain-link fence. It is located in a Chattanooga neighborhood that supports mixed industrial and commercial properties. Historical records indicate that the Subject Property supported a foundry occupied by at least three stove manufacturing businesses from circa 1900 to 1960. Hamilton County tax assessor records indicate that it has been paved and has supported no structures since 1960. No other use of the Subject Property was identified during this investigation.

Surrounding adjacent properties have supported residences, foundries and commercial properties since circa 1883. If a release of contaminants to groundwater has occurred on a neighboring property and that contamination has migrated to the Subject Property, the potential for the Subject Property's owner to be held liable is low. The EPA summarized its policy towards owners of property containing contaminated aquifers in the Federal Register Volume 60, Page 34790 (July 3, 1995), as follows:

This policy states the agency's position that, subject to certain conditions, where hazardous substances have come to be located on or in a property solely as the result of subsurface migration in an aquifer from a source or sources outside the property, EPA will not take enforcement actions under CERCLA, 42 U.S. C. 106 and 107, against the owner of such property to require the performance of response actions or the payment of response costs.

This policy does not address deposition of solid material or liquid in the absence of groundwater.

The Subject Property has been used for industrial purposes (foundries) in the past that have potential for the presence of subsurface contamination on such properties. The only method of determining the presence of contamination on the Subject Property is to collect and analyze subsurface media samples. Based on the investigative activities as described herein, this assessment has revealed no other apparent potential for the presence of recognized environmental conditions in connection with the Subject Property, which are of sufficient concern to warrant a Phase II investigation or further action at this time.

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APPENDIX

APPENDIX	COMPUTER DATABASE REPORT
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PHASE I ENVIRONMENTAL SITE ASSESSMENT
UNITED STATES PIPE & FOUNDRY CO. PROPERTY
CHESTNUT STREET
CHATTANOOGA, TENNESSEE

1. INTRODUCTION

As requested by Mr. Gene Shiles, attorney for Robmer Partners, Griggs & Maloney, Inc. (G&M) conducted a Phase I Environmental Site Assessment (ESA) of a 0.881-acre property located on the east side of Chestnut Street and north side of West 25th Street in Chattanooga, Hamilton County, Tennessee (Subject Property). The Subject Property includes Hamilton County Tax Map 145N, Parcel 4. United States Pipe & Foundry Co. owns the Subject Property. The Subject Property currently supports a paved parking lot.

This report presents the details of the Phase I Environmental Assessment of the Subject Property. This Phase I ESA was conducted in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) E 1527-00 *Standard Practice for Phase I Environmental Site Assessments: Environmental Site Assessment Process* guidelines. The purpose of this investigation was to identify recognized environmental conditions¹ on the Subject Property.

Environmental assessments are typically divided into three (3) sequential phases. These phases include the following:

- Phase I: Review of available historical records; interviews with persons knowledgeable of the site; and a visual inspection of the site, preferably a perambulatory reconnaissance or "walk-over" of the site.
- Phase II: Selective sampling of areas suspect of being potential environmental liabilities.
- Phase III: Develop strategy for site utilization and/or potential environmental remediation or clean up.

¹ A *recognized environmental condition* is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

1. INTRODUCTION (CONTINUED)

The initiation of each phase is dependent upon the findings of the previous phase. For example, at a minimum, each site investigation includes a Phase I ESA record review, knowledgeable person interview, and site reconnaissance. If the reviewed information and inspections indicate no environmental concerns, then there is no need to proceed with Phases II and III investigations.

However, the Phase I ESA may identify an area, or areas, of the property which in the past, currently, or which may reasonably be expected to pose future environmental liabilities. Such a finding would typically result in a recommendation for collecting media (e.g., building materials, soil, groundwater, surface water) samples and subsequent analysis as part of a Phase II investigation. The Phase II investigation would be designed to confirm or refute the presence of substances of environmental concern on the property.

If a Phase II Assessment indicates environmental concerns that need further investigation or corrective action, then a Phase III Assessment may be necessary. Phase III is a more comprehensive sampling, assessment, and site remediation program, which may allow for estimating the remedial actions and capital/operating costs for the property.

No ESA can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this or any ESA is intended to reduce, but not eliminate, uncertainty regarding the environmental condition of a property.

The expressed opinions of Griggs & Maloney, Inc. are made within the limitations of this investigation and the assessor's experience. It is impossible to obtain full, comprehensive knowledge of the condition of all the Subject Property's environmental media through a limited investigation of this nature.

The basic findings of this investigation have been highlighted throughout this report in red print for the reader's convenience. G&M has attempted to highlight each basic finding. However, the presence of highlighting is not intended to relieve the reader's responsibility of thoroughly reading the report in its entirety. The absence of highlighting does not diminish the importance of the text of any portion of this report. Standard G&M reports are produced and presented in color. Standard photocopying will not reproduce the color highlighting.

The Site Location Map (Figure 1) depicts the location of the Subject Property. The Site Detail Map (Figure 2) depicts the surface features of the Subject Property. The Area Topographic Map (Figure 3), prepared from portions of U.S. Geological Survey (USGS) topographic quadrangle (Chattanooga, Tennessee) for the vicinity of the Subject Property, depicts the topography and surface features of the vicinity of the Subject Property.

Digital images were collected during the site reconnaissance on April 30, 2002 with a Sony Mavica® digital camera. Copies of the images collected during the site reconnaissance are presented throughout this report.

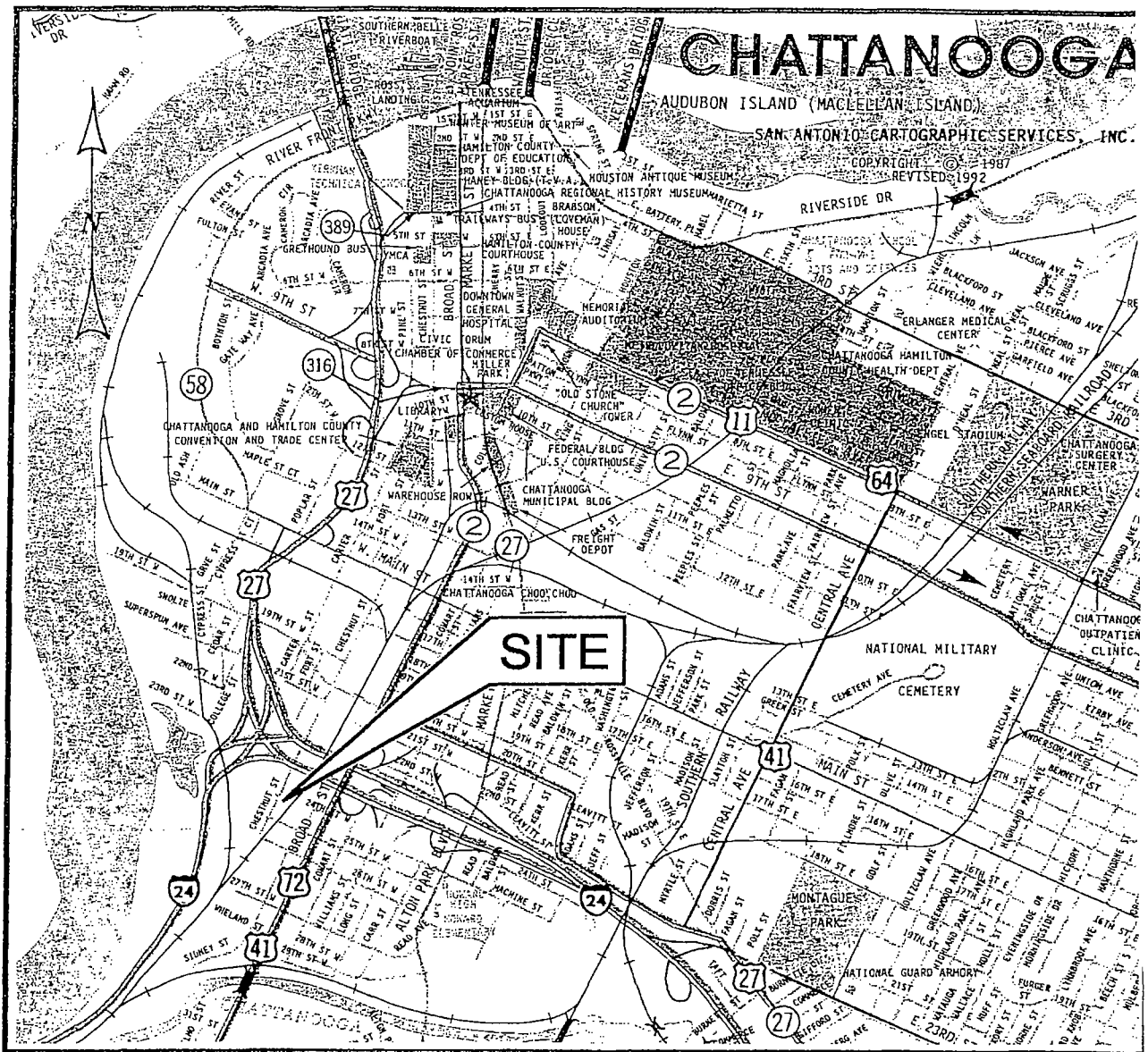


Figure 1
Site Location Map

**GRIGGS & MALONEY
INCORPORATED**
Engineering & Environmental Consulting

P.O. BOX 2968, MURFREESBORO, TN 37133-2968
(615) 895-8221 • FAX (615) 895-0632

FILE NAME: D:\G&M\PROJ\BANK OF MURFREESBORO\377-12\LOCATION.dwg DSM

Phase I Environmental Site Assessment
Gene Shiles, Atty. for
Siskin Steel and Supply Co.
U.S. Pipe and Foundry Property
Chestnut St., Chattanooga, Tennessee

Project No. 341-09

May, 2002

MWPS011473

FOUNDRY OPERATIONS

CHESTNUT STREET

UNDEVELOPED

W. 26th STREET

PAVED PARKING LOT

THE STEEL
STORE
(SISKIN STEEL AND
SUPPLY CO.)

FENCE

L & N RAILROAD

TRUCK WASH
(INDOOR)

**GRIGGS & MALONEY
INCORPORATED**
Engineering & Environmental Consulting

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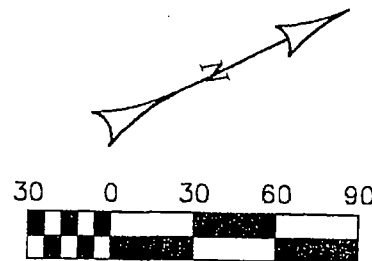


Figure 2
Site Detail Map
Phase I Environmental Site Assessment
Gene Shiles, Atty. for
Siskin Steel and Supply Co.
U.S. Pipe and Foundry Property
Chestnut St. Chattanooga, Tennessee

MWPS011474

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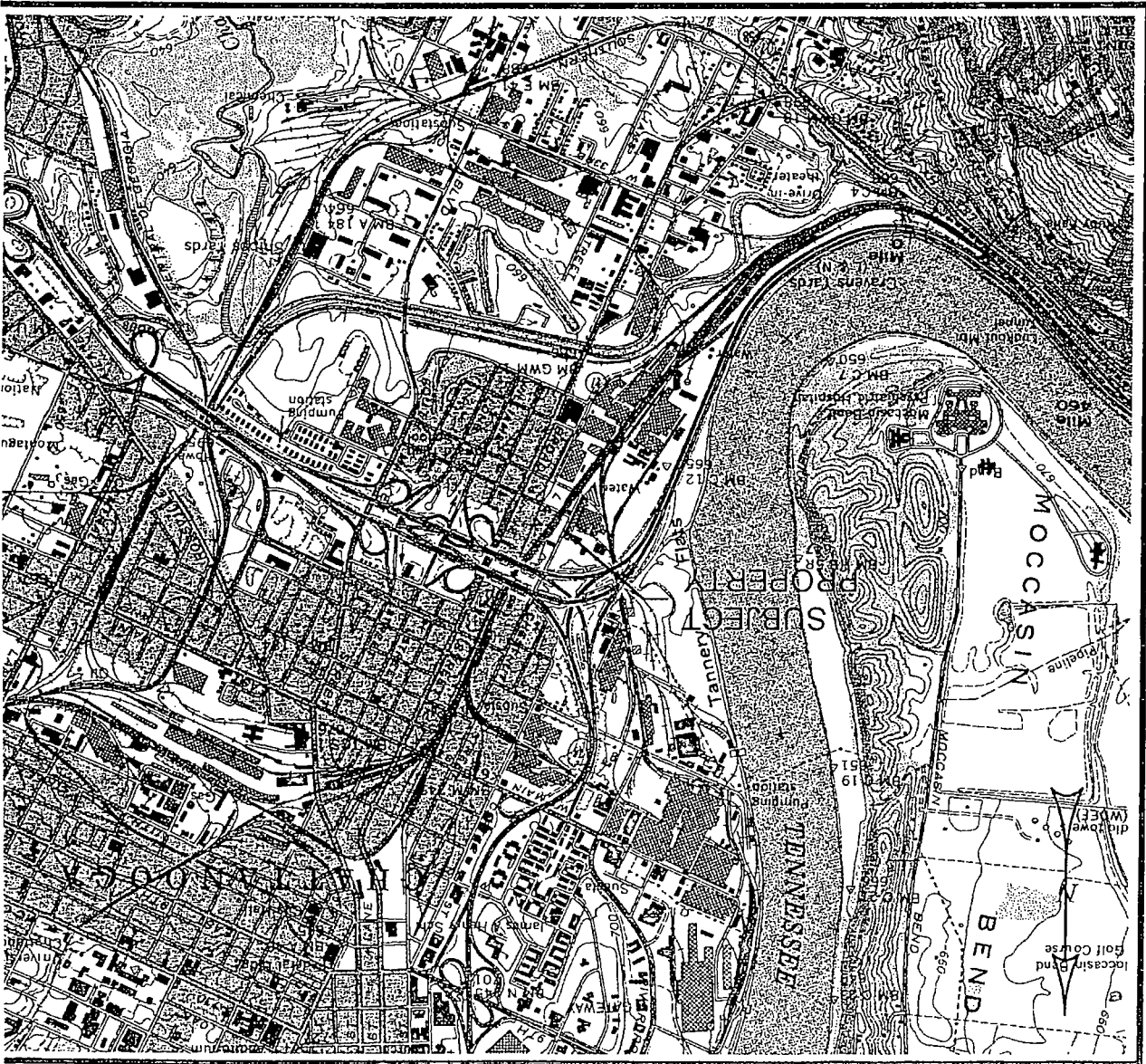
GRIGGS & MALONEY
INCORPORATED
Engineering & Environmental Consulting

Taken from: U.S.G.S.
7.5 Minute Series (Topographic)
Chattanooga Quadrangle
1969, Photorevised 1976

Phase I Environmental Site Assessment
Gene Shiles, Atty. for
Siskin Steel and Supply Co.
U.S. Pipe and Foundry Property
Chestnut St., Chattanooga, Tennessee
Project No. 341-09
May, 2002

Figure 3
Area Topographic Map

SCALE: 1"=2000'
2000 0 2000 4000 6000



2. SCOPE OF WORK

The purpose of this Phase I Environmental Site Assessment (ESA) is to identify, to the extent feasible, recognized environmental conditions in connection with a subject property. This Phase I ESA included:

- Visual inspection through pedestrian and/or vehicular reconnaissance of the Subject Property and adjoining properties from the Subject Property.
- Review of Federal and State Regulatory Databases.
- Review of readily available historical ownership records.
- Review of pertinent local regulatory records.
- Interviews conducted with present and/or past owners of the subject property or persons knowledgeable of the site's history.
- Review of readily available historical aerial photographs.

This report will summarize the observations made, and provide conclusions developed during the ESA. The ESA was performed in general conformance with the scope and limitations of ASTM E 1527-00 guidelines, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessments Process*.

3. PROPERTY INVESTIGATION

3.1. SITE DESCRIPTION

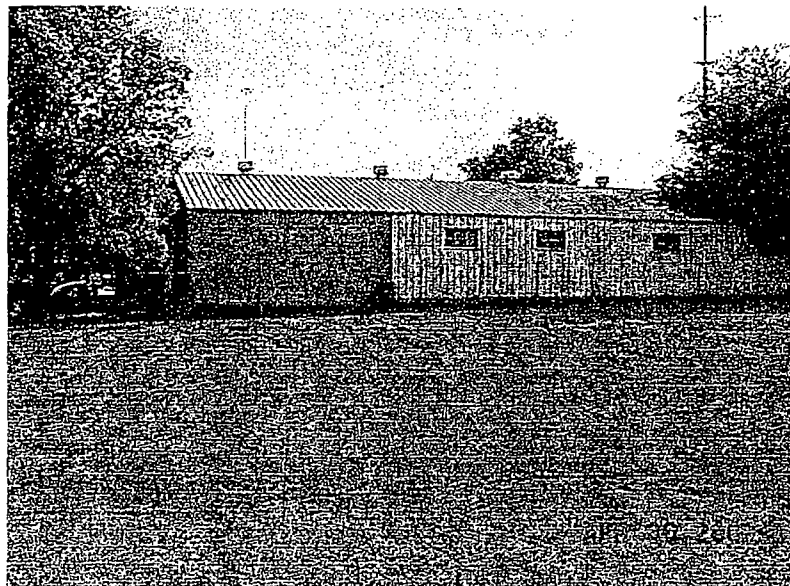
G&M conducted a perambulatory reconnaissance of the generally level Subject Property on April 30, 2002. The irregularly shaped Subject Property (Picture 1) is located on the east side of Chestnut Street and the north side of West 25th Street in an area of Chattanooga that comprises industrial and commercial properties.

The Subject Property is covered with pavement and is surrounded by a chain-link fence. Employees of U.S. Pipe & Foundry use the Subject Property for parking personal vehicles. The Subject Property is located in a generally level topographical area of Chattanooga near Moccasin Bend the Tennessee River. This area supports foundries and associated industrial activities. Adjacent property to the north supports an outlet store facility for Siskin Steel & Supply, Co. known as The Steel Store (background, Picture 2). Adjacent property to the west beyond Chestnut Street supports U.S. Pipe & Foundry, Co. industrial facilities (background, Picture 1). Adjacent property to the south beyond abandoned railroad tracks and West 25th Street is unimproved (Picture 3) and adjacent property to the west beyond the same abandoned railroad tracks supports an indoor truck washing and commercial scales facility (Picture 4).

3.1. SITE DESCRIPTION (CONTINUED)

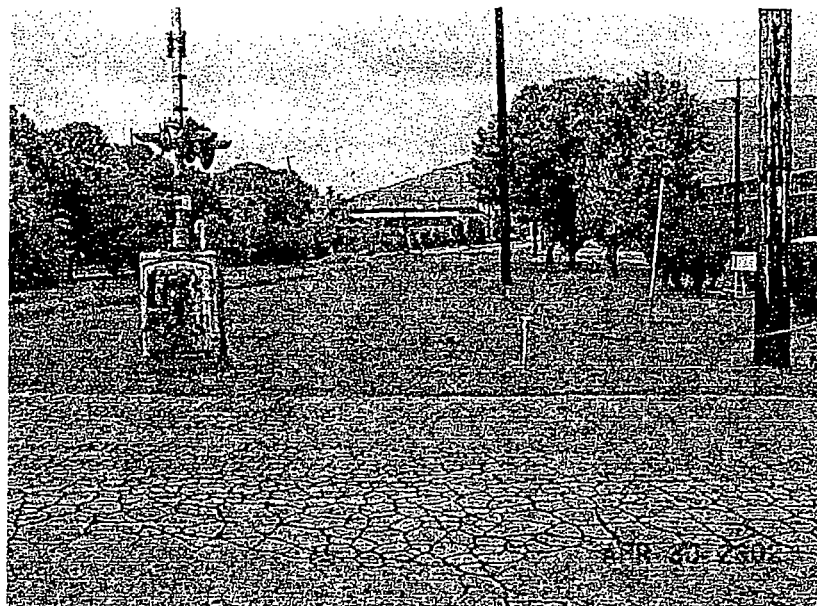


Picture 1 – A general view of the Subject Property from the northeastern corner. U.S. Pipe & Foundry, Co. industrial facilities appear in the background in this view.

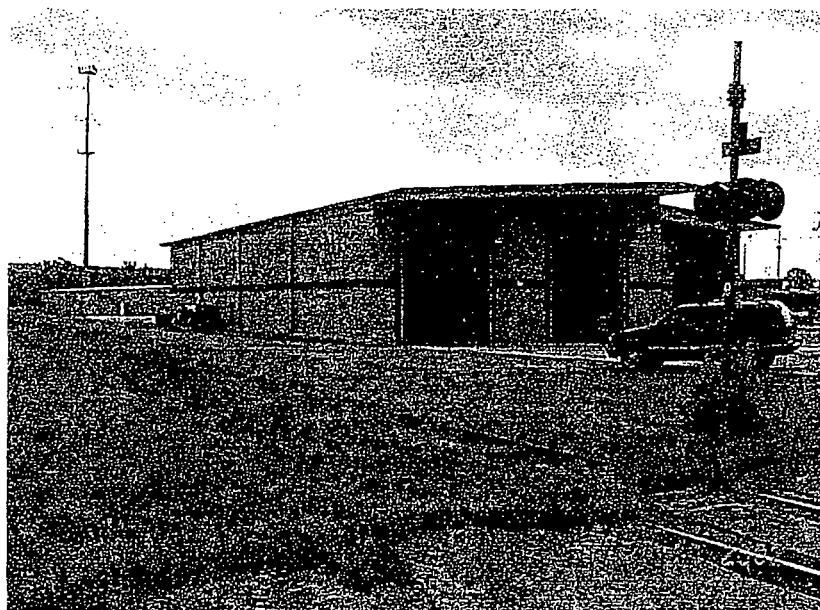


Picture 2 – A view of the Steel Store building on adjacent property to the north.

3.1. SITE DESCRIPTION (CONTINUED)



Picture 3 – A view of adjacent property to the south beyond West 25th Street.



Picture 4 – A view of adjacent property east of the Subject Property that supports this indoor truck wash and commercial scales facility.

3.1. SITE DESCRIPTION (CONTINUED)

The USGS topographic map of the vicinity of the Subject Property indicates that it is located at an elevation of approximately 665 feet above mean sea level (msl). Surface topography and structures indicate that stormwater that falls on the Subject Property is generally directed toward municipal storm sewer system catch basins in adjacent streets and to grass-covered areas on adjacent property to the east.

3.2. HISTORICAL SITE USAGE

Mr. Mervin Pregulman of The Steel Store on adjacent property to the north, indicated that he has personally been familiar with the Subject Property since the 1960s and that the Subject Property has been a parking lot since that time. He indicated no other uses of the Subject Property.

A review of Hamilton County Tax Assessor records for the Subject Property indicates that a paved parking lot and chain-link fence were constructed on it in 1960. No other past or current development of the Subject Property is indicated in these records. These records indicate no uses of the Subject Property.

G&M conducted a review of the historical ownership of the Subject Property at the Hamilton County Register of Deeds Office in Chattanooga on April 30, 2002. The review was conducted to identify Subject Property ownership indicative of uses of environmental concern. The review covered a period from the present back to 1933, when a review of the deed for the Subject Property and the Reverse Index to Deeds indicated no source of title for it. The ownership records indicated that Mascot Stove Company owned the Subject Property from 1933 to 1962, Mueller Co. (a foundry) owned it from 1962 to 1968, and that U.S. Pipe & Foundry owned it from 1968 to the present. No additional Subject Property uses were indicated in the ownership review. A synopsis of the Subject Property ownership is presented in Table 1.

G&M reviewed historical city directories for the vicinity of the Subject Property for the period from the present back to 1871 in five-year increments (as available), when the first such records were made available. The review was conducted at the Chattanooga Public Library on April 30, 2002. The records indicated that Chestnut Street was once known as Boyce Street and that West 25th Street was once known as Vulcan Street.

TABLE 1. HISTORICAL OWNERSHIP SUMMARY

U.S. PIPE & FOUNDRY CO. PROPERTY

CHESTNUT STREET

CHATTANOOGA, TENNESSEE

HAMILTON COUNTY TAX MAP 145N,

PARCEL 4

DEED BOOK	PAGE No.	DATE	OWNERSHIP TRANSFERRED FROM	OWNERSHIP TRANSFERRED TO
1755	622	1/24/68	Mueller Co.	United States Pipe & Foundry Company
1480	481	2/13/62	Sidney Freeman, Trustee	Mueller Co.
Record Book V	Vol. 26, 229*	7/3/33	American Trust & Bank Company, Trustee	Mascot Stove Company, Inc.

* - No source of title given. A review Reverse Indices to Grantees was inconclusive.

3.2. HISTORICAL SITE USAGE (CONTINUED)

The historical city directories indicated that the Subject Property was probably undeveloped until 1900-1910 when the Mountain City Stove & Mfg., Co. occupied a facility on it. These records indicate that Mountain City Stove & Mfg., Co. occupied the facility until circa 1920 when Mascot Stove Mfg. Co., occupied it. Mascot Stove Mfg. Co. remained in the facility according to these records until circa 1955. The facility was reportedly vacant in 1955. There is no further indication of the Subject Property supporting, or being occupied from 1955 to the present in the historical city directories.

G&M requested a Sanborn historical fire insurance map report for the vicinity of the Subject Property from Environmental Data Resources, Inc. (EDR). Historical fire insurance maps can identify property uses and appurtenances in detail for the time the maps were prepared. These maps were generally prepared for urban areas from the mid- to late 1800s to the early 1960's. EDR indicated that there is Sanborn Map coverage for the vicinity of the Subject Property for the years 1885, 1889, 1901, 1917, 1950, 1955, and 1964. A copy of the EDR notification and maps related to the Sanborn map review are included in the Appendix to this report.

The Sanborn Maps indicate that the Subject Property was unimproved in 1964; that in 1955, it supported the remains of a building pad; in 1950, the Subject Property and adjacent property to the north that now supports the Steel Store, were part of the Mascot Stove Co. facility; in 1917, the Subject Property supported a foundry that was a portion of the Mascot Stove Co. facility that included adjacent property to the north that now supports the Steel Store; and in 1901 the Subject Property supported the stone foundation for the Mountain City Stove & Mfg. Co. No other use or activity was indicated for the Subject Property in the Sanborn Map review. Surrounding adjacent properties were identified in the Sanborn Map review as supporting foundry operations.

3.3. UNDERGROUND STORAGE TANKS (USTS)

No vent pipes, fill ports, fuel dispensers, or other surface indications of the presence of USTs were observed on the Subject Property during the site reconnaissance and none were identified in the historical records described above.

3.4. ABOVEGROUND STORAGE TANKS (ASTS)

No aboveground storage tanks (ASTs) were noted on the Subject Property and none were identified in the historical records described above.

3.5. UTILITIES

3.5.1. POTABLE WATER

The Subject Property supports no structures or activities that require water. However, the municipal water supply system is located in this area.

3.5.2. WASTEWATER DISPOSAL

3.5.2.1. SANITARY

The Subject Property supports no structures or activities that generate sanitary sewage. However, the municipal sanitary sewer system is available in this area of Chattanooga.

3.5.3. HEATING/COOLING

No heating or cooling devices are located on the Subject Property.

3.6. WASTE MANAGEMENT

Solid wastes are defined as "discarded" materials that are abandoned by disposal, recycling, or are considered inherently "waste-like." A solid waste can be a solid, liquid, semi-solid, or containerized gas.

3.6.1. SOLID WASTE MANAGEMENT

No wastes are apparently generated on the Subject Property.

3.6.2. HAZARDOUS WASTE MANAGEMENT

A waste is defined as hazardous if it:

1. Is listed as a hazardous waste by the U.S. Environmental Protection Agency (EPA);
2. Exhibits the characteristics of a hazardous waste (flammable, corrosive, reactive, or toxic);
3. Is a mixture of listed hazardous waste and a non-hazardous waste;
or
4. Is not excluded from regulation as a hazardous waste.

During the site reconnaissance, no surface indications of the disposal, storage, or generation of hazardous wastes were noted on the Subject Property.

3.7. CHEMICAL USE AND STORAGE

3.7.1. SOLVENT USE

During the site reconnaissance, no obvious indications of the disposal, storage, or generation of solvents were noted on the Subject Property nor were any reported to have occurred in the past.

3.7.2. PESTICIDES AND HERBICIDES

No manufacture, storage of pesticides or herbicides were observed on the Subject Property during the site reconnaissance.

3.8. POLYCHLORINATED BIPHENYLS – (PCBS)

The EPA has identified polychlorinated biphenyls (PCBs) as suspected human carcinogens. PCBs were found in dielectric fluid in many electrical components and equipment manufactured prior to 1979. Electrical devices, which should be suspected of containing PCBs, include electrical power transformers, capacitors, and ballasts. No suspect PCB articles were noted on the Subject Property.

3.9. OPERATIONS

No operations are conducted on the Subject Property.

4. REGULATORY AGENCY CONTACTS

As part of the investigation, G&M conducted a computer search of federal and state databases of recognized, registered regulated sites within a city, county, and/or zip code search area. The database search was based on a latitude/longitude estimate and/or the address of the Subject Property. Environmental Data Resources, Inc. (EDR) provided a computer database search for the vicinity of the Subject Property. Searched databases are described in Table 2. The EDR database search report is included in the Appendix of this report. The database searches were performed for the area included in U. S. Postal Service Zip Code 37408, which encompasses the vicinity of the Subject Property. The search radii were selected based on ASTM Standard E 1527-00 recommendations.

The Subject Property is not identified in the EDR report. The following sections present a summary of the findings of the database searches.

TABLE 2.

SEARCHED DATABASES

• NPL	National Priority List
• Delisted NPL	NPL Deletions
• RCRIS-TSD	Resource Conservation and Recovery Information System
• SHWS	State Hazardous Waste
• CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
• CERCLIS-NFRAP	Comprehensive Environmental Response, Compensation, and Liability Information System
• SWF/LF	Solid Waste Facilities List
• UST	Owner/Facility Report of All Tanks Regardless of Status
• RAATS	RCRA Administrative Action Tracking System
• RCRIS-LQG	Resource Conservation and Recovery Information System – Large Quantity Generator of Hazardous Waste
• RCRIS-SQG	RCRIS - Small Quantity Generator of Hazardous Waste
• HMIRS	Hazardous Materials Information Reporting System
• PADS	PCB Activity Database System
• ERNS	Emergency Response Notification System
• FINDS	Facility Index System
• TRIS	Toxic Chemical Release Inventory System
• NPL Lien	Federal Superfund Liens
• TSCA	Toxic Substances Control Act
• MLTS	Material Licensing Tracking System
• ROD	Records of Decision
• CONSENT	Superfund (CERCLA) Consent Decrees

4.1. FEDERAL DATABASES

4.1.1. NPL/CERCLIS/CERC/NFRAP

National Priorities Listing (NPL) of Superfund sites is an EPA listing of uncontrolled or abandoned hazardous waste sites. The Comprehensive Environmental Response, Compensation, and Liability (Act) Information System (CERCLIS) is a database of known and suspected uncontrolled or abandoned hazardous waste sites. The CERCLA No Further Remedial Action Planned (CERC-NFRAP) database identifies CERCLA sites that have been investigated or remediated and deemed to require no further investigation or remediation.

4.1.1. NPL/CERCLIS/CERC/NFRAP (CONTINUED)

No NPL or proposed NPL sites were identified as being located within the search radius of the Subject Property (1.0 mile). Two CERCLIS and one CERC-NFRAP facilities were identified as being within the ASTM-recommended search radius (one-mile).

Details of the search are presented in the database report in the Appendix.

4.1.2. TRI

Toxic Release Inventory (TRI) reports contain information on the estimated release of toxic chemicals into the environment, including the amount of chemicals stored at a facility, and the estimated quantity that has been emitted into the environment through air emissions. The TRI System (TRIS) is a database of these facilities.

No TRI facilities are identified in the EDR report as being within the EDR search radius Subject Property (Target Property). Details of the search are presented in the database report in the Appendix.

4.1.3. ERNS

Emergency Response Notification System is a national computer database of information on the release of hazardous substances into the environment, including spill locations, substances released, and the responsible party.

The Subject Property (Target Property) is not identified as being in the ERNS database. The ASTM recommended search radius is the Target Property. Details of the search are presented in the database report in the Appendix.

4.1.4. RCRIS

Resource Conservation and Recovery (RCRA) Information System reports the listing of small (SQG) and large quantity generators (LQG) and treatment, storage, and disposal (TSD) facilities of hazardous wastes that are required to register their activities under RCRA.

Two SQGs and one LQG area identified in the EDR report as being within the ASTM-recommend search radius (one quarter mile). No other registered hazardous waste generators are identified in the EDR report as being within the specified search radius.

4.1.5. FINDS

Facility Index Systems (FINDS) is a computerized inventory of facilities tracked by the U.S. Environmental Protection Agency (EPA). The FINDS report lists facilities that are identified in sub-databases (e.g., NPL/CERCLIS, TRI, RCRIS, and ERNS) in addition to those that have air emissions permits. The EDR search radius included the target property. It was not identified as a FINDS facility in the EDR report. FINDS Database review findings are presented in the database search report in the Appendix.

4.1.6. CORRACTS

The Corrective Action Report (CORRACTS) is a computerized inventory of all facilities identified by the EPA as having been subject to EPA corrective action requirements. Two CORRACTS facilities were identified in the EDR report as being located within the ASTM-recommended search radius of the Subject Property (one mile). Details of the listed sites are presented in the database search report in the Appendix.

4.2. STATE DATABASES AND FILES REVIEW

4.2.1. UST/LUST

EDR searched the Tennessee Department of Environment and Conservation (TDEC), Division of Petroleum Underground Storage Tanks (DPUST) registered underground storage tank (UST) database. The results of the database search identified one (1) registered UST facility within 0.25-mile search radius of the Subject Property and two (2) historical leaking UST (HIST LUST) facilities as being within the ASTM-recommended search radius of 0.5-mile. Details of the listed sites are presented in the database search report in the Appendix.

4.2.2. LANDFILLS

The Subject Property is not identified as being a landfill in the EDR report. However, two (2) registered landfills area identified in the EDR report as being located within the ASTM-recommended search radius (0.5-mile).

4.2.3. STATE HAZARDOUS WASTE SITES

A search of the state hazardous waste sites database revealed that there are two (2) state-registered hazardous waste sites within the ASTM-recommended search radius of the Subject Property. The Subject Property is not identified in the EDR report as a hazardous waste site.

4.2.4. ORPHAN SITES LIST

EDR compiled a list of identified sites and facilities in the searched databases that, based on available location information, could not be adequately mapped but may be within the ASTM-recommended search radii for such facilities. This list is entitled the Orphan Sites List (EDR Report Executive Summary, Page 4) and contains nine facility names. None of the sites or facilities identified as orphan sites was identified as the Subject or adjacent property.

If a release of contaminants to groundwater has occurred on a neighboring property and that contamination has migrated to the Subject Property, the potential for the Subject Property's owner to be held liable is low. The EPA summarized its policy towards owners of property containing contaminated aquifers in the Federal Register Volume 60, Page 34790 (July 3, 1995), as follows:

This policy states the agency's position that, subject to certain conditions, where hazardous substances have come to be located on or in a property solely as the result of subsurface migration in an aquifer from a source or sources outside the property, EPA will not take enforcement actions under CERCLA, 42 U.S. C. 106 and 107, against the owner of such property to require the performance of response actions or the payment of response costs.

This policy does not address deposition of solid material or liquid in the absence of groundwater.

5. CONCLUSIONS AND RECOMMENDATIONS

Griggs & Maloney, Inc., has performed a Phase I Environmental Site Assessment (ESA) in general conformance with the scope and limitations of ASTM E 1527-00 of a 0.881-acre property located on the east side of Chestnut Street and north side of West 25th Street in Chattanooga, Hamilton County, Tennessee (Subject Property). The Subject Property includes Hamilton County Tax Map 145N, Parcel 4. United States Pipe & Foundry Co. owns the Subject Property. The Subject Property currently supports a paved parking lot.

The generally level Subject Property is completely paved and is surrounded by a chain-link fence. It is located in a Chattanooga neighborhood that supports mixed industrial and commercial properties. Historical records indicate that the Subject Property supported a foundry occupied by at least three stove manufacturing businesses from circa 1900 to 1960. No other use of the Subject Property was identified during this investigation.

Surrounding adjacent properties have supported residences, foundries and commercial properties since 1883. If a release of contaminants to groundwater has occurred on a neighboring property and that contamination has migrated to the Subject Property, the potential for the Subject Property's owner to be held liable is low.

5.0 CONCLUSIONS AND RECOMMENDATIONS (CONTINUED)

The EPA summarized its policy towards owners of property containing contaminated aquifers in the Federal Register Volume 60, Page 34790 (July 3, 1995), as follows:

This policy states the agency's position that, subject to certain conditions, where hazardous substances have come to be located on or in a property solely as the result of subsurface migration in an aquifer from a source or sources outside the property, EPA will not take enforcement actions under CERCLA, 42 U.S. C. 106 and 107, against the owner of such property to require the performance of response actions or the payment of response costs.

This policy does not address deposition of solid material or liquid in the absence of groundwater.

The Subject Property has been used for industrial purposes (foundries) in the past that have potential for the presence of subsurface contamination on such properties. The only method of determining the presence of contamination on the Subject Property is to collect and analyze subsurface media samples. Based on the investigative activities as described herein, this assessment has revealed no other apparent potential for the presence of recognized environmental conditions in connection with the Subject Property, which are of sufficient concern to warrant a Phase II investigation or further action at this time. ←

5.1. NON - SCOPE CONSIDERATIONS

There may be environmental issues or conditions at the property that are outside the scope of ASTM E 1527-00. Some substances may be present on a property in quantities and under conditions that may lead to contamination of the property or of nearby properties but are not included in CERCLA's definition (42 USC § 9601(14)) of hazardous substances or do not otherwise present potential CERCLA liability. Whether or not it is elected to inquire into non-scope considerations in connection with ASTM E-1527-00 or any other environmental site assessment, no assessment of such non-scope considerations is required for appropriate inquiry as defined by ASTM E 1527-00. The following items address non-scope considerations regarding the subject property.

5.1.1. ASBESTOS

Asbestos is a naturally occurring fiber found in rock. Because of its durability and excellent fire resistance, it was used extensively from the early 1900s until the early 1970s in building material manufacture. Federal regulations began limiting the use of asbestos in building material manufacture in the 1970 resulting in a gradual phase out of its use.

Consequently, the identification of suspect asbestos-containing materials (ACM) is generally based on the date of material installation and type or nature of the material. The danger posed by asbestos is from breathing airborne asbestos fibers. The federal government has identified asbestos as a material that, through inhalation exposure, can cause cancer and asbestosis. The asbestos fibers become airborne when ACM are, or become, friable (crumbled easily when subjected to hand pressure) and are disturbed.

Based on the absence of buildings on the Subject Property, surface indications, or records of waste disposal on it, potential for the presence of ACM on the Subject Property appears to be minimal.

5.1.2. RADON GAS

Radon is a colorless, odorless, naturally occurring radioactive gas which is produced when certain natural radioactive minerals breakdown or decay. These natural minerals are present in the environment in slight amounts and are found in increased quantities in particular geologic deposits. Radon gas decays into smaller particles called "daughters" which can attach to soil or dust particles in the air.

Typically, radon concentrations are higher in lower portions of buildings such as basements where outside air exchanges are limited. When the soil or dust particles are inhaled, the radioactive particles can be deposited on the lining of the lungs and subsequently decay or emit radioactive particles which can damage the lung tissue or cause cancerous growth.

No attempt has been made to determine if radon gas is generated on the site and the site should be considered to have potential for radon gas generation. Only sampling and analysis can provide definitive indications of the level of radon gas present at a site. Radon sampling is outside the scope of this investigation.

5.1.3. LEAD PAINT

Lead-based paints were manufactured until 1977 and their use was allowed until 1980 in new construction by the U.S. Consumer Protection Agency. Buildings constructed or remodeled prior to 1980 have a much higher probability of having lead paint than those constructed after 1980. Concern for exposure to lead in paint centers on ingestion of paint particles by children and inhalation and ingestion of lead-containing dust in the workplace.

Based on the absence of buildings on the Subject Property, surface indications, or records of waste disposal on it, potential for the presence of lead-based paint on the Subject Property appears to be minimal.

5.1.4. LEAD PIPE /SOLDER

In 1986 lead-based solder and plumbing fixtures containing lead were banned. Prior to 1986 the use of lead was common. Water systems containing lead may pose a significant health risk if the lead leaches into the drinking water. No water system fixtures are located on the Subject Property.

5.1.5. FLUORESCENT/MERCURY VAPOR LIGHTS

The U.S. EPA has classified fluorescent lighting bulbs or tubes that have not been properly tested for leaching characteristics as "universal hazardous waste". EPA has given state governments the latitude to determine the disposal criteria for such waste. Waste fluorescent and high-intensity light bulbs may contain mercury or other heavy metals in excess of regulatory limits for disposal based on leaching criteria. One way to determine the leaching characteristic of this waste is to conduct leaching analysis on a sample of the waste. An additional method of determining the characteristics of such bulbs is to obtain such information from the manufacturer(s) of bulbs.

No evidence of on-site disposal of potentially contaminated bulbs was observed on the Subject Property.

6. STATEMENT OF CERTIFICATION AND LIMITING CONDITIONS

No ESA can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this or any ESA is intended to reduce, but not eliminate, uncertainty regarding the environmental condition of a property.

The expressed opinions of Griggs & Maloney, Inc. are made within the limitations of this investigation and the assessor's experience. It is impossible to obtain full, comprehensive knowledge of the condition of all the Subject Property's environmental media through a limited investigation of this nature.

This Environmental Site Assessment (ESA) is made subject to the following certification and limiting conditions:

This ESA report has been made in conformity with, and is subject, to the requirements of the Code of Professional Ethics of the Environmental Assessment Association.

The environmental inspector and/or Griggs & Maloney, Inc., has no personal interest in or bias with respect to the subject matter of the ESA or any parties who may be part of a financial transaction involving the property. The conclusions and recommendations of the report are not based in whole or in part upon the race, color, creed, sex, or national origin of any of the Principal Parties.

The environmental inspector has personally inspected the property and has made a visual inspection of adjacent properties, to the extent possible by readily available access. The inspection does not include a survey of the property, removal of any soil, water, or air samples, or any type of inspection that would require extraordinary effort to access.

The observations described in this ESA were made under the conditions stated herein. The conclusions presented in the ESA were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by the Client.

In preparing this ESA, Griggs & Maloney, Inc., has relied upon certain information provided by the state and local officials and other parties referenced therein, and on information contained in the files of state and/or local agencies available to Griggs & Maloney, Inc., at the time of the ESA. Although there may have been some degree of overlap in the information provided by these various sources, Griggs & Maloney, Inc. has made no attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this ESA and undertakes no responsibility for accuracy of such items.

Griggs & Maloney, Inc., assumes no responsibility for matters of a legal nature affecting the property inspected or the title thereto. The property is inspected assuming responsible ownership. Griggs & Maloney, Inc., assumes that there are no hidden, unapparent, or latent conditions or defects in or of the property, subsoil, or structures, other than those noted in the inspection report. Griggs & Maloney, Inc. assumes no responsibility for such conditions, or for the inspection, engineering, or repair, which might be required, to discover or correct such factors.

Any drawings presented herein are included to assist in generally visualizing the setting of the Subject Property features and no responsibility is assumed for accuracy of such drawings. Griggs & Maloney, Inc. has made no survey of the property and it is assumed that any survey provided is correct.

The site investigation and resulting ESA report are made by the environmental inspector and/or Griggs & Maloney, Inc., solely for the benefit and personal use of the Principal Parties. No disclosure may be made of this ESA contents without the prior written consent of Griggs & Maloney, Inc.

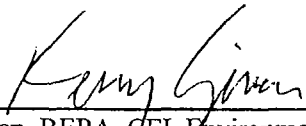
7. SIGNATURE OF PREPARERS

This Phase I Assessment was performed and the report prepared by Kerry Given, REPA, CEI Environmental Scientist, Griggs & Maloney, Inc. The report has been reviewed and is co-signed by Mr. Steve Maloney, Principal, Griggs & Maloney, Inc.

Kerry Given has received a B.S. degree and is a Registered Environmental Property Assessor (REPA) with the National Registry of Environmental Professionals and a Certified Environmental Inspector (CEI) with the Environmental Assessment Association. Given is member of ASTM and its Committee E-50 on environmental assessments and Committee E-50.02 on Commercial Property Transactions, and a certified AHERA asbestos inspector/management planner. He has over nine (9) years experience in industrial and environmental consulting.

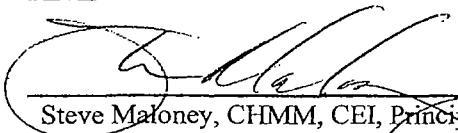
Mr. Maloney has received B.S. and M.S. degrees in Biological Sciences, is a CEI, and a Certified Hazardous Materials Manager (CHMM). Mr. Maloney also has over twenty (20) years experience in the environmental consulting field. Mr. Maloney's specialties include performance of environmental site assessments, hazardous waste management, contaminated site investigation/remediation and regulatory compliance issues.

ASSESSOR:

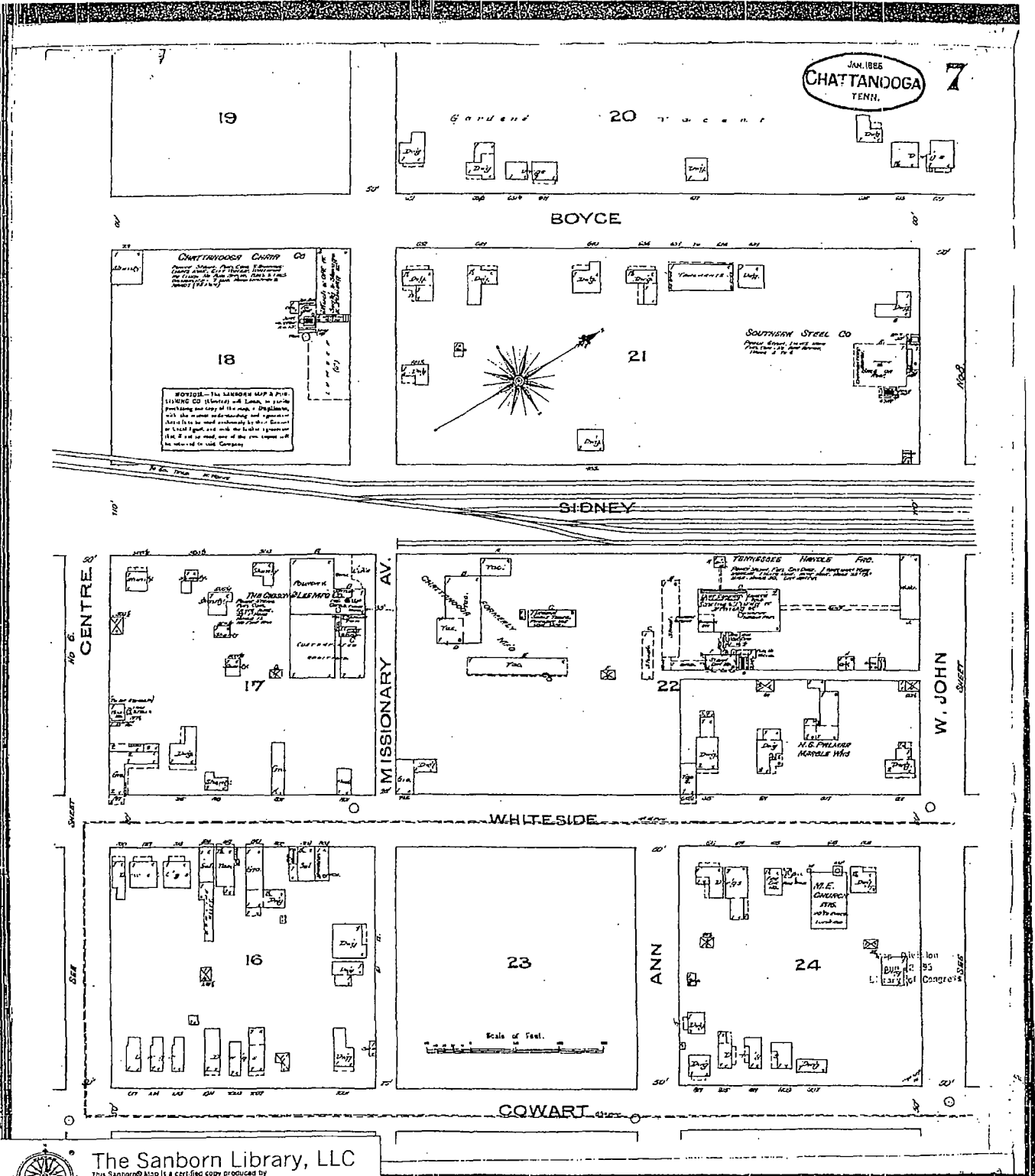

Kerry Given, REPA, CEI, Environmental Scientist

5/30/02
Date

REVIEWER:


Steve Maloney, CHMM, CEI, Principal

5/30/02
Date



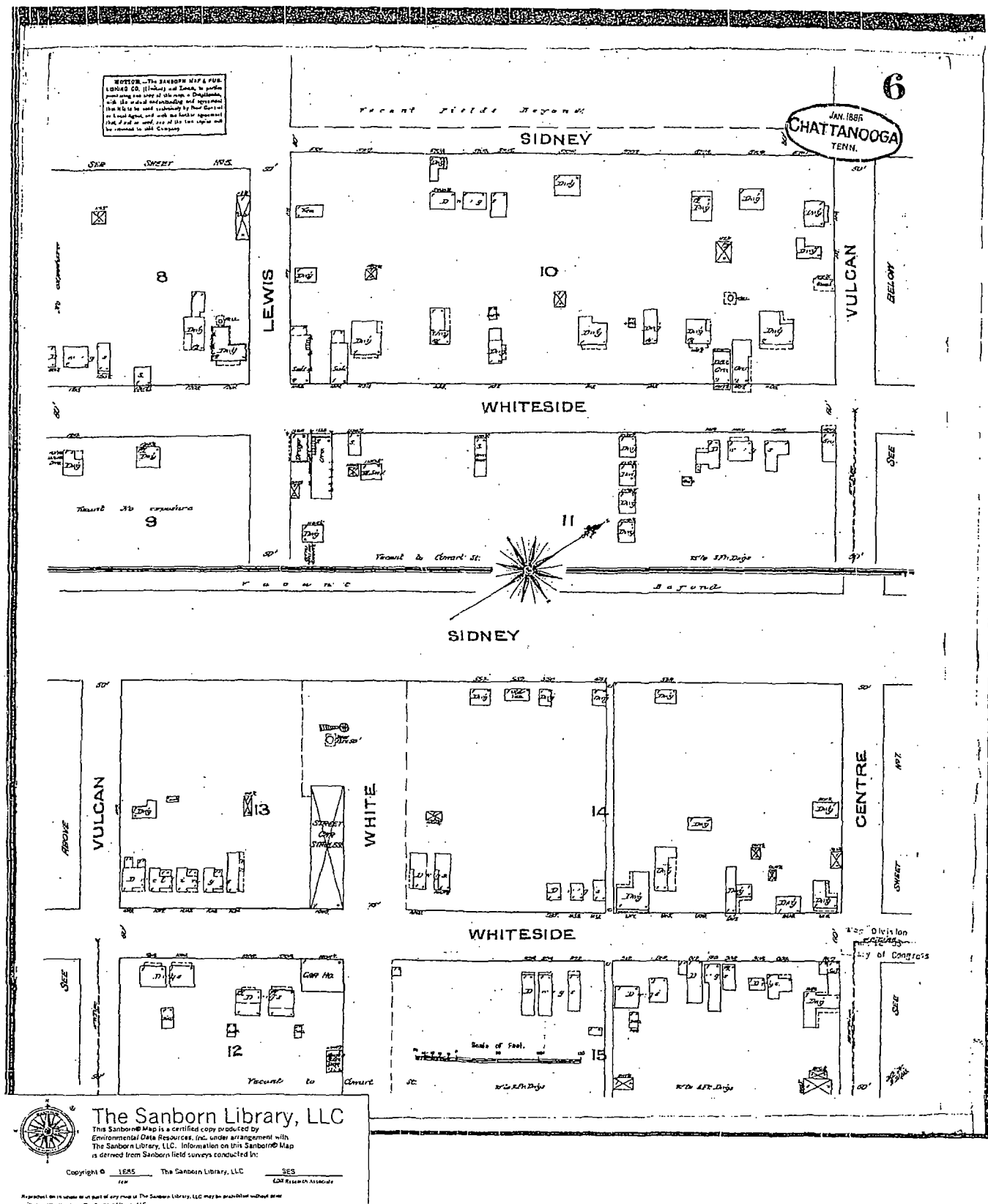
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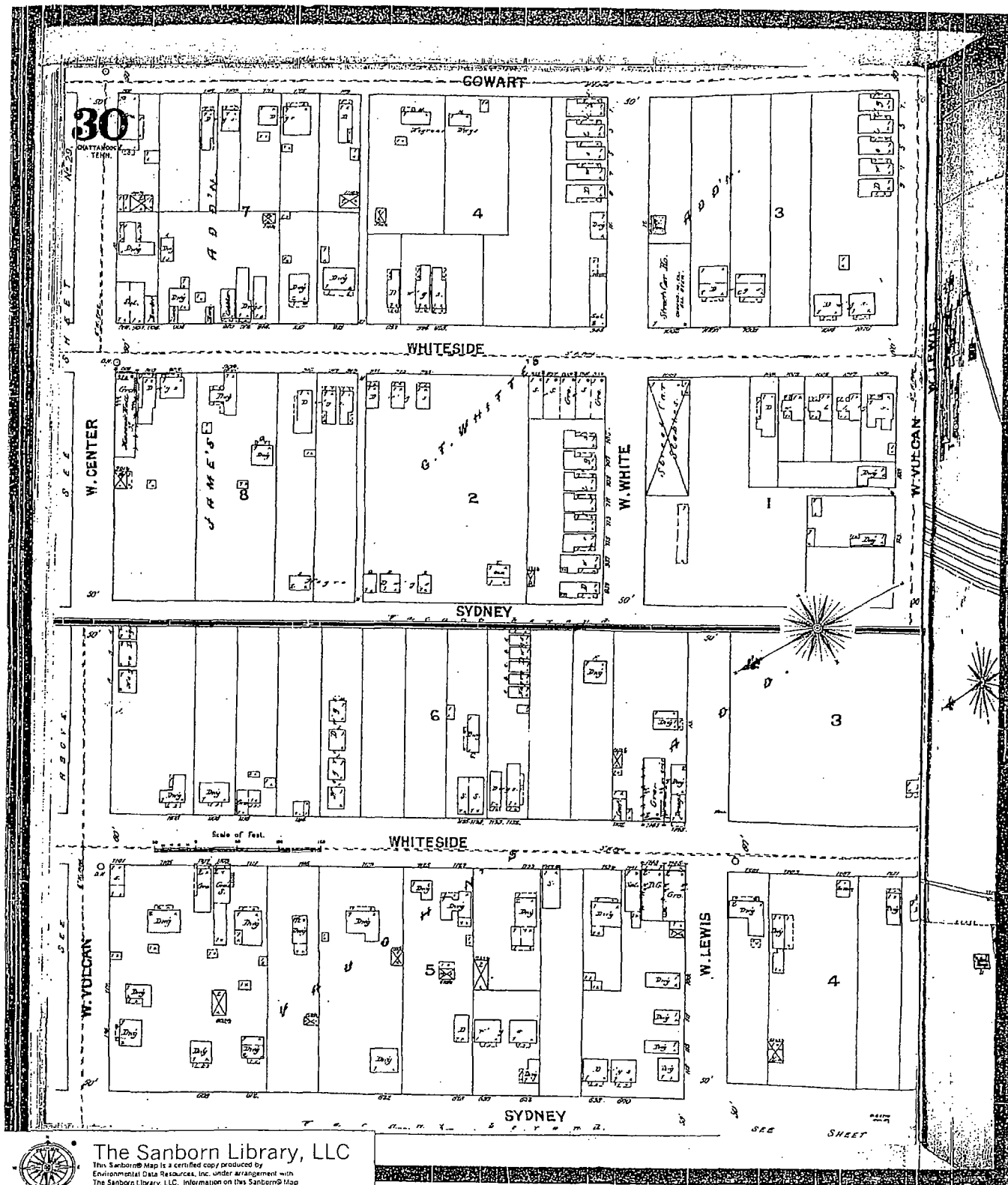
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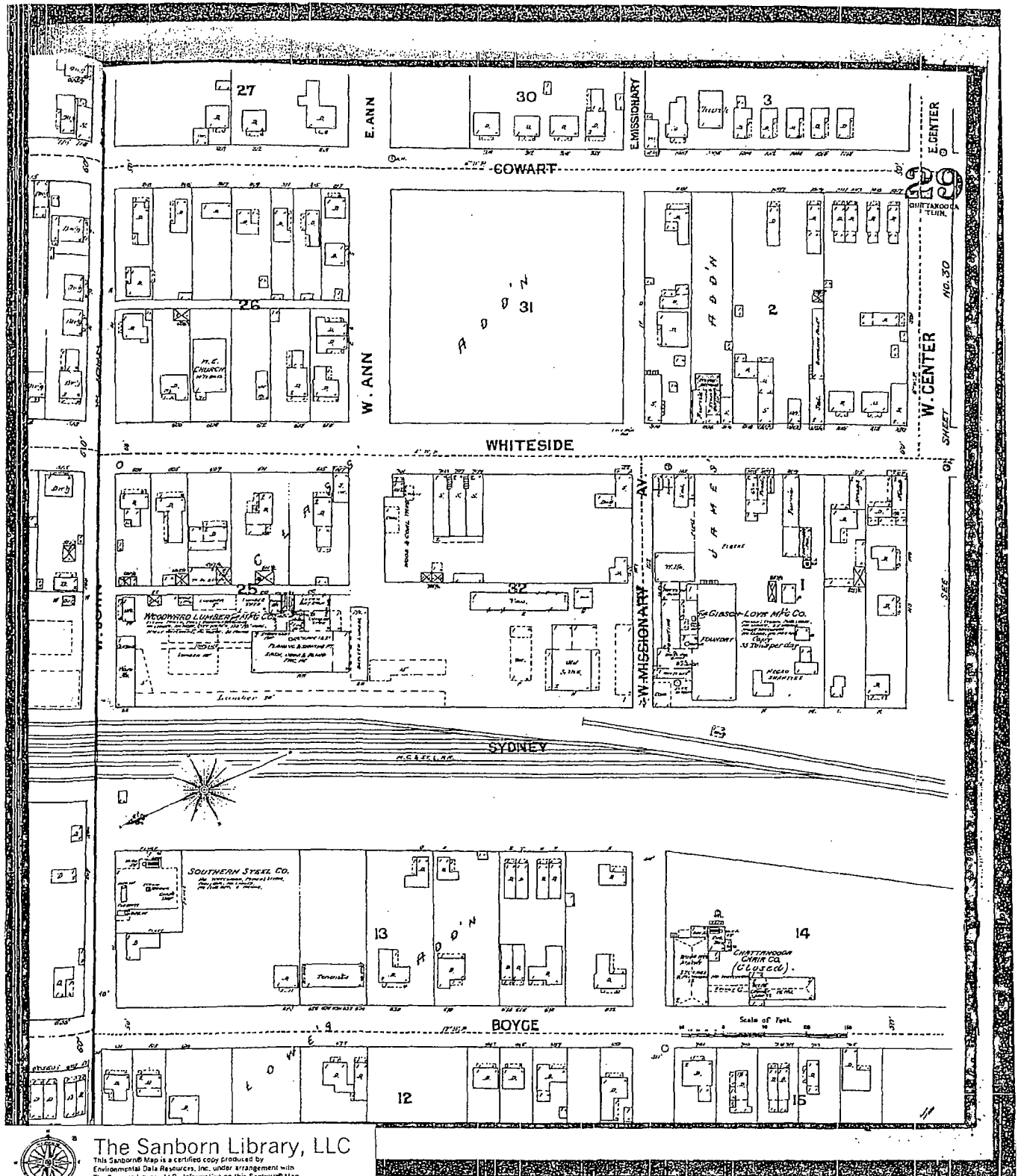
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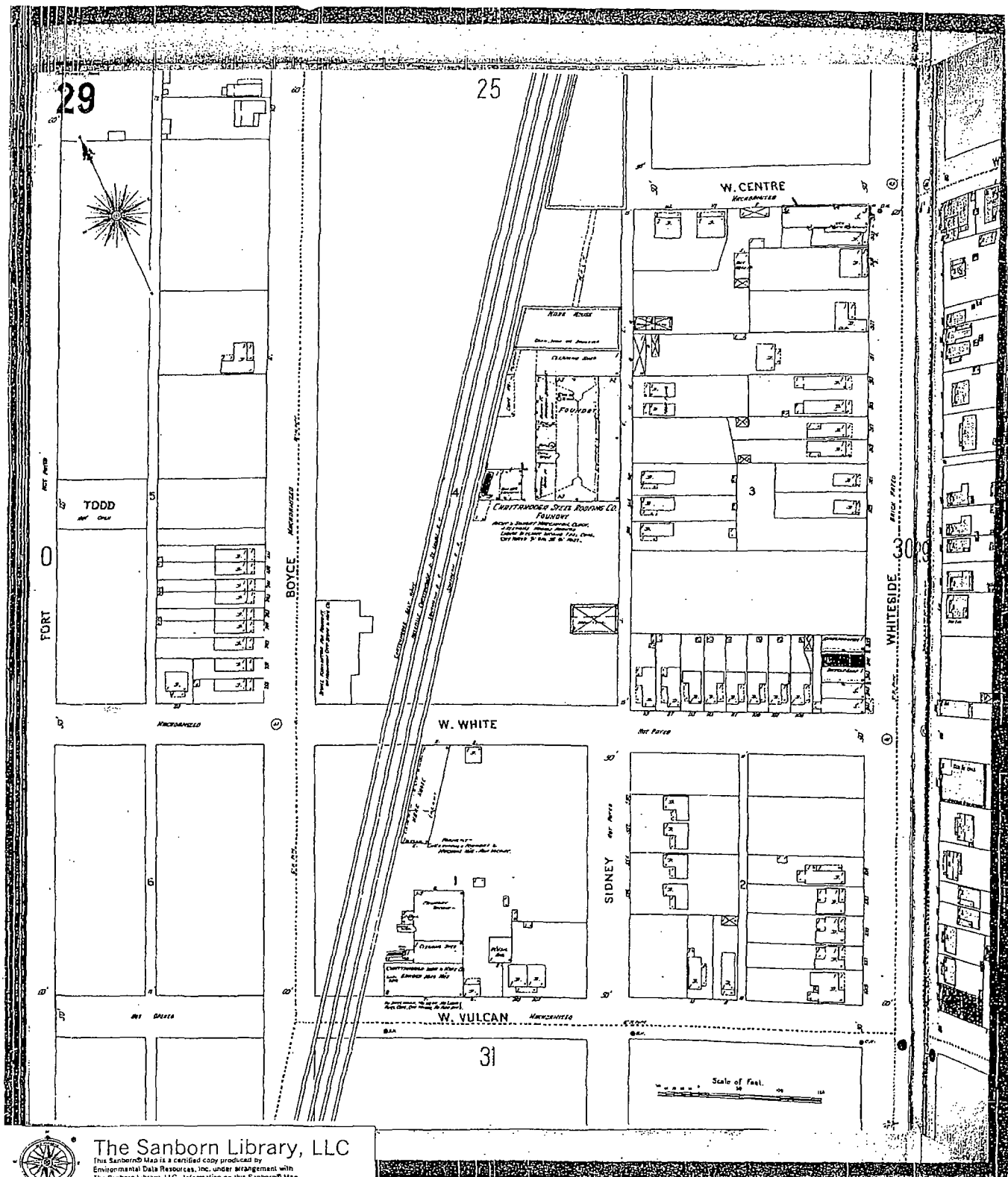
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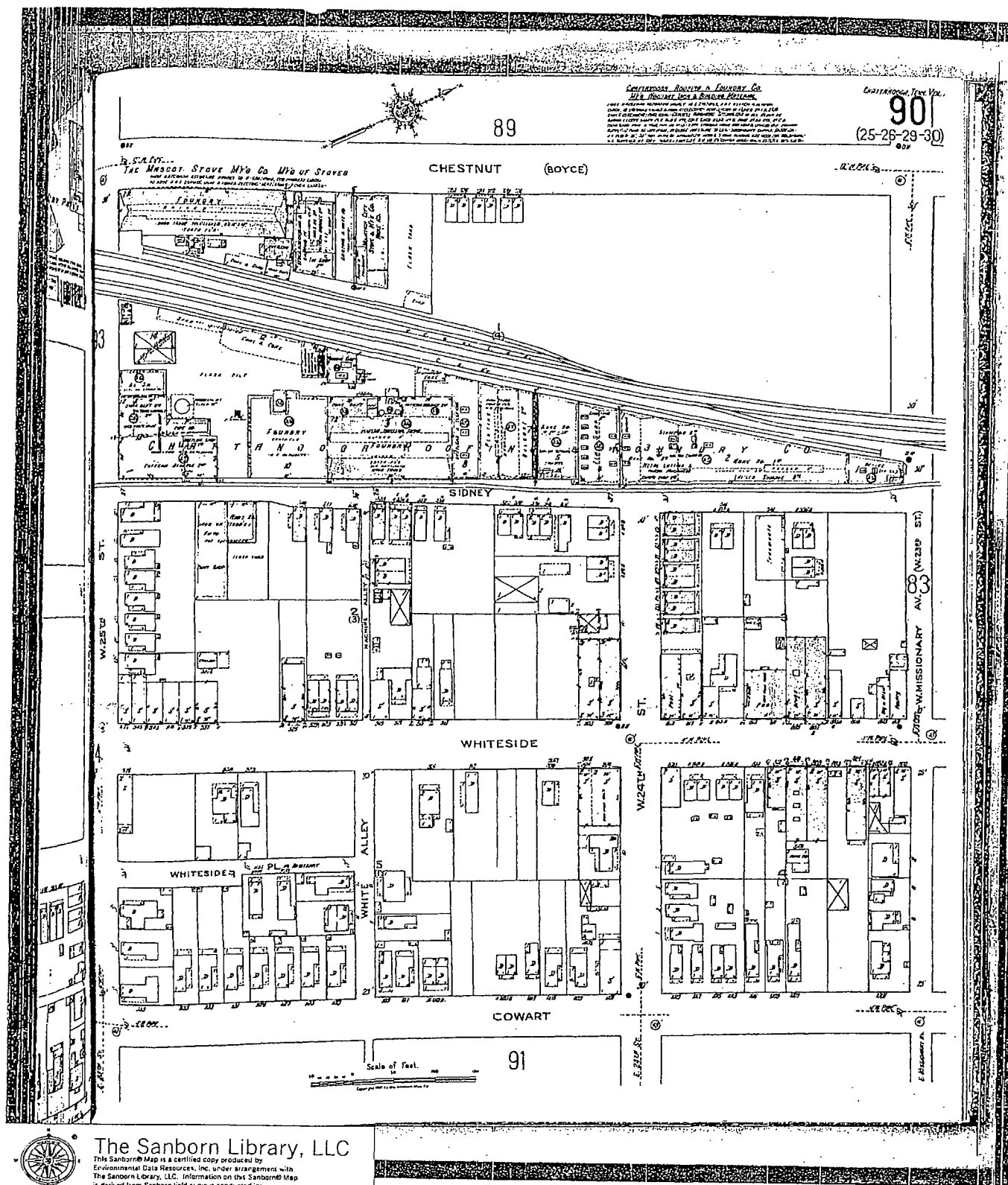
The Sanborn Library, LLC

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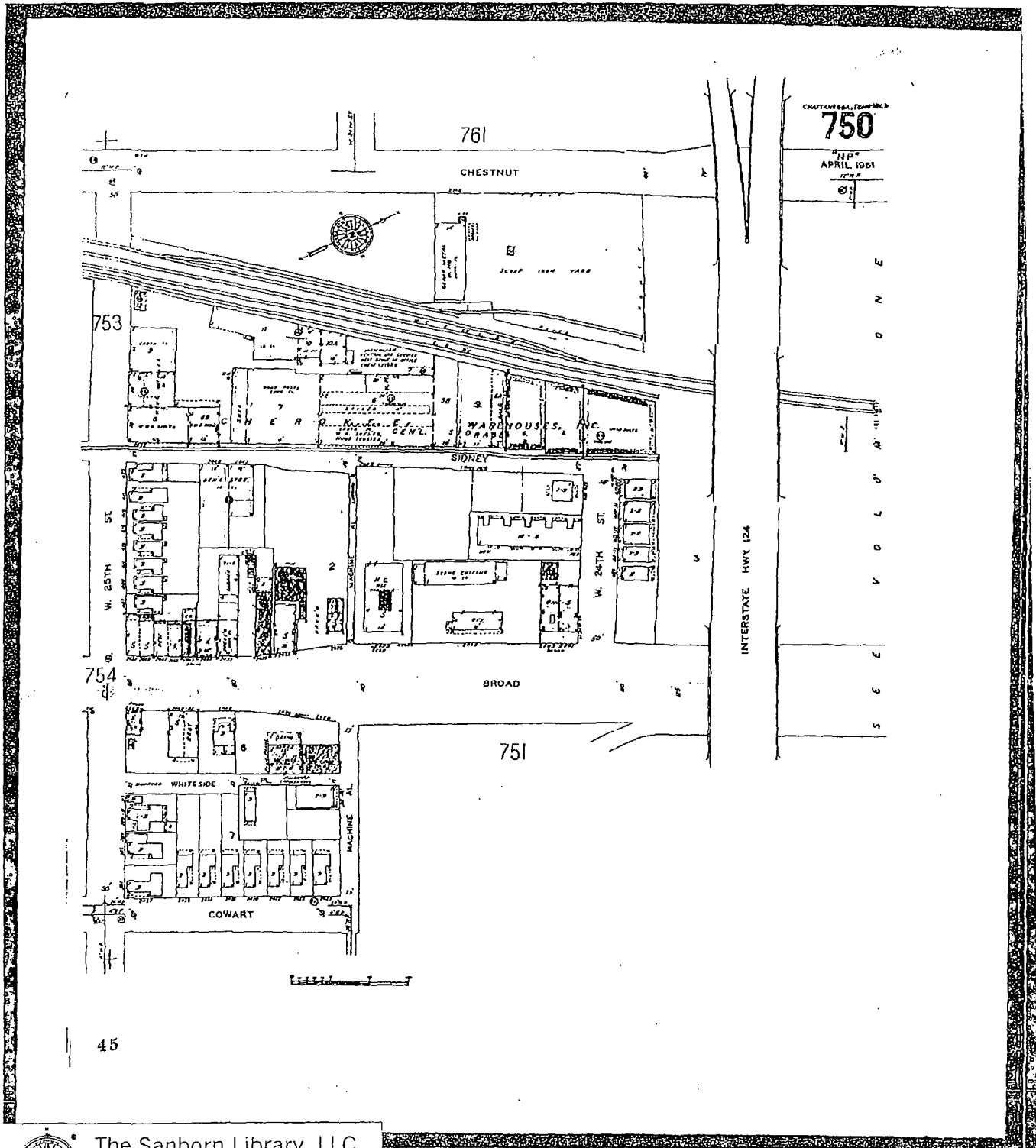
The Sanborn Library, LLC

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MWPS011501

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-17C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Grinding Booths in #2 Cleaning Shed (South)

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

6,650 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

John Hall
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit
- ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit
Instal. Permit No. _____
- ☒ Certificate of Operation (Renewal)
Certificate of Operation No. 3321-30400340-18C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Grinding Booths in No. 2 Cleaning Shed (North)

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

3,325 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:

CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-19C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Swing Frame Grinders in No. 2 Cleaning Shed

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

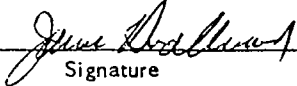
12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

3,325 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____


Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

400 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

James R. McLeod
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30799999-21C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Pattern Shop Equipment

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

100 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:

CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Permit Fee _____ Hours Technical Research and Computer Time

Inspection Approval Date Inspected: _____

Reviewed by Supervisor

Check Received. Amount _____ Check Number _____ Date _____

Updated on Computer

Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-25C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Cleaning System "A"

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

3,000 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

____ Permit Fee _____ Hours Technical Research and Computer Time

____ Inspection Approval Date Inspected: _____

____ Reviewed by Supervisor

____ Check Received. Amount _____ Check Number _____ Date _____

____ Updated on Computer

____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit
- ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit
- ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-26C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Swing Frame Grinders in No. 1 Cleaning Shed

- II. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

1,500 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

James W. Moore
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
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6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit
- ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit
Instal. Permit No. _____
- ☒ Certificate of Operation (Renewal)
Certificate of Operation No. 3321-30400340-27C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013; ☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Cleaning System "C"

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

3,750 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Permit Fee _____ Hours Technical Research and Computer Time

Inspection Approval Date Inspected: _____

Reviewed by Supervisor

Check Received. Amount _____ Check Number _____ Date _____

Updated on Computer

Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit
- ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit
Instal. Permit No. _____
- ☒ Certificate of Operation (Renewal)
Certificate of Operation No. 3321-30400340-28C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Cleaning System "B"

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

3,000 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

James Halland
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-29C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Cleaning System "D"

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

3,750 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

James H. Sullivan
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____



UNITED STATES PIPE AND FOUNDRY COMPANY

Chattanooga Valve & Fittings Plant
P.O. Drawer 311
CHATTANOOGA, TENNESSEE 37401

February 25, 1997

FAXED AND MAILED

Mr. Randy Smith
Vice-President, Marketing
Porter Warner Industries, Inc.
2 East 38th Street
Chattanooga, Tennessee 37410

Dear Randy:

This letter is to advise that the Chattanooga Hamilton County Air Quality Control Board has alleged in Notice of Violation that U. S. Pipe and Foundry does not meet certain visibility standards of the Chattanooga Hamilton County Air Quality Control Board. There is some concern that this allegation may be related to the characteristics or properties of sand additive materials that we purchase from your company. In this regard, U. S. Pipe and Foundry may be forced to consider the use of other products and/or suppliers so as to avoid further allegations of violations by U. S. Pipe and Foundry Company in regard to use of these products.

However, before making such consideration, we would request your company's assistance and analysis in regard to smoke generation during casting shakeout and cooling operations.

We will be meeting to discuss these issues further among U. S. Pipe and Foundry Company personnel on February 27, 1997. We certainly would appreciate your response prior to that time. We will owe a response to the Chattanooga Hamilton County Air Quality Control Board on or before March 20, 1997. Therefore, your immediate response is requested.

Very truly yours,

A handwritten signature in cursive script, reading "Wayne A. Berry".

Wayne A. Berry
Plant Manager

WAB:tr



UNITED STATES PIPE AND FOUNDRY COMPANY

Chattanooga Valve & Fittings Plant
P.O. Drawer 311
CHATTANOOGA, TENNESSEE 37401

February 25, 1997

FAXED AND MAILED

Mr. Keith McLean
Vice President/Business Director
Foundry Products
North American Resins/Foundry Products
Division of Borden, Inc.
10330 West Roosevelt Road
Westchester, Illinois 60154-2564

Dear Keith:

This letter is to advise that the Chattanooga Hamilton County Air Quality Control Board has alleged in Notice of Violation that U. S. Pipe and Foundry does not meet certain visibility standards of the Chattanooga Hamilton County Air Quality Control Board. There is some concern that this allegation may be related to the characteristics or properties of core making materials that we purchase from your company. In this regard, U. S. Pipe and Foundry may be forced to consider the use of other products and/or suppliers so as to avoid further allegations of violations by U. S. Pipe and Foundry Company in regard to use of these products.

However, before making such consideration, we would request your company's assistance and analysis in regard to smoke generation during casting shakeout and cooling operations.

We will be meeting to discuss these issues further among U. S. Pipe and Foundry Company personnel on February 27, 1997. We certainly would appreciate your response prior to that time. We will owe a response to the Chattanooga Hamilton County Air Quality Control Board on or before March 20, 1997. Therefore, your immediate response is requested.

Very truly yours,

A handwritten signature in cursive script that reads "Wayne A. Berry".

Wayne A. Berry
Plant Manager

WAB:tr

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3494
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2501 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-04C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☐ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: E010, E106

10. Equipment Name: Pangborn Abrasive Sand Blasting Facility Mod. AA-2 and
Associated Pangborn Baghouse Mod. 1500 Type CN

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☒ YES ☐ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

- 2,000 Lb/Hr

Mail To:

Company Official:

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

____ Inspection Approval Date Inspected: _____

_____ Check Received. Amount _____ Check Number _____ Date _____

_____Registered in Suspense File

[illegible]

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

PROCESS EQUIPMENT APPLICATION

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): Pangborn Abrasive Sand Blasting
Facility Mod. AA-2 and Associated Pangborn Baghouse Mod. 1500 Type CN (Code 10)
3. Type of Process: Sand blasting of iron castings.
4. Major Raw Materials Processed: Iron and sand.

5. Date of installation, initial start-up, or alternation (such that potential emissions were increased) of equipment or device for which permit is applied for:

☐ Before January 1, 1973 - Schedule 1

☒ After January 1, 1973 - Schedule 2

6. Process Weight: 2,000 lbs/hr

(This is the total weight of all materials introduced into the process expressed in lbs/hr.)

7. Control Equipment Data:

A. ☐ Emissions Uncontrolled

B. ☒ Baghouse (File Form E102)

C. ☐ Wet Collecting Device (File Form E103)

D. ☐ Electrostatic Precipitator (File Form E104)

E. ☐ Inertial Separators (File Form E105)

F. ☐ Other - Specify _____

8. Control Equipment Efficiency for each pollutant emitted by this equipment (from appropriate Form E102, E103, E104, E105, E107 or enter zeros if A is checked in Item 7):

% EFFICIENCY

Particulates

99

SO_x

NO_x

CO

Hydrocarbons

Other:

9. Actual Particulate Emissions:

A. Uncontrolled Emissions: 17 lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{.17} \text{ lbs/hr}$$

10. Actual Sulfur Oxide Emissions:

N/A

Specify air required for process: _____ SCFM

A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}} \text{ lbs/hr}$$

11. Allowable Nitrogen Oxide Emissions:

N/A

A. Nitric Acid Plants Emission Limitation (Allowable emissions will be in Item 7 on Form E101): _____ lbs/hr as NO₂

B. All other process equipment emission limitations: ☐ No Requirement

12. Nitrogen Oxide Emissions (lbs/hr as NO₂):

N/A

A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}} \text{ lbs/hr}$$

13. Other Air Contaminant Emissions - Specify:

N/A

AIR CONTAMINANT

AMOUNT EMITTED (lbs/hr)

☐ The values shown were determined by actual stack test.
(Submit a copy of stack test with full details).

☐ The values shown were estimated.
(File Form E106 for each pollutant shown).

14. Those emissions indicated in Item 13 may at times under normal operating conditions cause (check one or more):

☐ Odors ☐ Eye Irritations
☐ Property Damage ☐ Other nuisances outside of plant property
☐ Health Effects ☒ No environmental damage

15. Emission Point Data:

Stack Height (emission point) above ground: 20 ft
Ground Elevation above sea level at stack base: 660 ft
Stack Diameter: 1.36 ft
Volume of gas discharged into atmosphere: 4500 cfm
Gas exit temperature: Ambient °F

16. Average Equipment Operating Time: A. Daily 1 hours
B. Weekly 1 days
C. Yearly 48 weeks

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: *Jim Ballard*

Signature

Title: Plant Engineer

Date: 11-5-90

NOTE: Equipment must also meet Visible Emission Code.

DO NOT WRITE BELOW THIS LINE

Information approved and entered on Permit Inspection Form (Engineer)

 lbs/hr (allowable particulate emissions) PPM by volume as SO₂

UTM Coordinates of Company: EW NS

This form corresponds to permit number:

Special Notations:

POLLUTION ESTIMATION FORM

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): Pangborn Abrasive Sand Blasting Facility Mod. AA-2 and Associated Pangborn Baghouse Mod. 1500 Type CN (Code 10)
3. Type of pollutant for which estimation is made: Particulate
4. Pollutant Emission Factor (PEF): 17 Lbs/Ton = .0085 Lbs/Lb
(Give value & units in lbs/ton, lbs/lbs, lbs/gal, gr/ft³, etc.)
 Source of Emission Factor: AP-42
5. Uncontrolled Pollution Emission Rate:

$$\frac{.0085}{\text{(PEF from Item 4)}} \times \frac{2,000 \text{ Lbs/Hr}}{\text{(Give operating rate for this equipment and the appropriate units in either lbs/hr, tons/hr, gal/hr, or CFM)}} = \frac{17 \text{ Lbs/Hr}}{\text{(Give value & units)}}$$
6. Uncontrolled Pollution Emission Rate: 17 lbs emitted/hr
(from Item 5 convert to lbs/hr)

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail to:
 CHATTANOOGA-HAMILTON COUNTY
 AIR POLLUTION CONTROL BUREAU
 3511 Rossville Boulevard
 Chattanooga, Tennessee 37407

Company Official: James H. WallworkTitle: Plant EngineerDate: 11-5-90

DO NOT WRITE BELOW THIS LINE

 Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-30C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: 3 Pangborn No. 34 Type GN Rotoblast Barrel (Code 29F)

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

12,000 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Permit Fee _____ Hours Technical Research and Computer Time

Inspection Approval Date Inspected: _____

Reviewed by Supervisor

Check Received. Amount _____ Check Number _____ Date _____

Updated on Computer

Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400399-31C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Unit No. 4 & Unit No. 10

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

173,520 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:

CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Permit Fee _____ Hours Technical Research and Computer Time _____

Inspection Approval _____ Date Inspected: _____

Reviewed by Supervisor _____

Check Received. Amount _____ Check Number _____ Date _____

Updated on Computer _____

Registered in Suspense File _____

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400350-34C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☐ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: E010, E102, E106

10. Equipment Name: Macawber Pneumatic Sand Transporter (Isocure)

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☒ YES ☐ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

25 Tons/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

John H. Caldwell
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

PROCESS EQUIPMENT APPLICATION

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): Macawber, Pneumatic Sand
Transporter (Isocure)
3. Type of Process: pneumatic conveying of sand
4. Major Raw Materials Processed: Sand

5. Date of installation, initial start-up, or alternation (such that potential emissions were increased) of equipment or device for which permit is applied for:

- ☐ Before January 1, 1973 - Schedule 1
- ☒ After January 1, 1973 - Schedule 2

6. Process Weight: 50,000 lbs/hr

(This is the total weight of all materials introduced into the process expressed in lbs/hr.)

7. Control Equipment Data:

- A. ☐ Emissions Uncontrolled
- B. ☒ Baghouse (File Form E102)
- C. ☐ Wet Collecting Device (File Form E103)
- D. ☐ Electrostatic Precipitator (File Form E104)
- E. ☐ Inertial Separators (File Form E105)
- F. ☐ Other - Specify _____

8. Control Equipment Efficiency for each pollutant emitted by this equipment (from appropriate Form E102, E103, E104, E105, E107 or enter zeros if A is checked in Item 7):

		% EFFICIENCY
Other:	Particulates	99
	SO _x	
	NO _x	
	CO	
	Hydrocarbons	

9. Actual Particulate Emissions:

A. Uncontrolled Emissions: 90 lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{0.9} \text{ lbs/hr}$

10. Actual Sulfur Oxide Emissions:

N/A

Specify air required for process: _____ SCFM

A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}} \text{ lbs/hr}$

11. Allowable Nitrogen Oxide Emissions:

N/A

A. Nitric Acid Plants Emission Limitation (Allowable emissions will be in Item 7 on Form E101): _____ lbs/hr as NO₂

B. All other process equipment emission limitations: ☐ No Requirement

12. Nitrogen Oxide Emissions (lbs/hr as NO₂):

N/A

A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}} \text{ lbs/hr}$

13. Other Air Contaminant Emissions - Specify:

N/A

AIR CONTAMINANT

AMOUNT EMITTED (lbs/hr)

☐ The values shown were determined by actual stack test.
(Submit a copy of stack test with full details).

☐ The values shown were estimated.
(File Form E106 for each pollutant shown).

14. Those emissions indicated in Item 13 may at times under normal operating conditions cause (check one or more):

☐ Odors ☐ Eye Irritations
☐ Property Damage ☐ Other nuisances outside of plant property
☐ Health Effects ☒ No environmental damage

15. Emission Point Data:

Stack Height (emission point) above ground: 15 ft
Ground Elevation above sea level at stack base: 660 ft
Stack Diameter: .5 ft
Volume of gas discharged into atmosphere: 1000 cfm
Gas exit temperature: Ambient °F

16. Average Equipment Operating Time: A. Daily 4 hours
B. Weekly 2 days
C. Yearly 48 weeks

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: *John D. Bellwood*

Signature

Title: Plant Engineer

Date: 11-5-90

NOTE: Equipment must also meet Visible Emission Code.

DO NOT WRITE BELOW THIS LINE

Information approved and entered on Permit Inspection Form (Engineer)

 lbs/hr (allowable particulate emissions) PPM by volume as SO₂

UTM Coordinates of Company: EW NS

This form corresponds to permit number:

Special Notations:

POLLUTION ESTIMATION FORM

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY

2. Equipment Name (as shown on Line 10, Form E001): Macawber Pneumatic Sand Transporter (Isocure)

3. Type of pollutant for which estimation is made: Particulate

4. Pollutant Emission Factor (PEF): 3.6 Lbs/Ton
(Give value & units in lbs/ton, lbs/lbs, lbs/gal, gr/ft³, etc.)
Source of Emission Factor: AP-42

5. Uncontrolled Pollution Emission Rate:
3.6 Lbs/Ton X 25 Tons/Hr = 90 Lbs/Hr
(PEF from Item 4) (Give operating rate for this equipment and the appropriate units in either lbs/hr, tons/hr, gal/hr, or CFM) (Give value & units)

6. Uncontrolled Pollution Emission Rate: 90 lbs emitted/hr
(from Item 5 convert to lbs/hr)

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: *Jim Ballard*
Title: Plant Engineer
Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____

BAGHOUSE
AIR POLLUTION CONTROL EQUIPMENT DATA

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY

2. Equipment Name (as shown on Line 10, Form E001): Macawber Pneumatic Sand Transporter (Isocure)

3. Manufacturer of Baghouse: Farr
Model Number: 3C Cost of Baghouse: \$2500

4. Does baghouse contain pre-cleaning equipment: ☐ Yes ☒ No
If yes, what type: _____
(File applicable form for control equipment).

5. A. Volume of gas discharged from baghouse at dry standard conditions:
1,000 dscfm
B. Total cloth area of baghouse: 720 ft²
Air to cloth ratio*: (A.) CFM divided by (B.) ft²
= 1.4 ft/min

* See Appendix C, Table 3 in Revised Permit Manual.

6. Pressure drop across baghouse:
Stated by manufacturer: 3 inches of H₂O.
Measured (actual): _____ inches of H₂O.
Calculated: _____ X _____
(K Factor*) (Air to cloth ratio in ft/min)
= _____ inches of H₂O
The recommended pressure drop range (inches of H₂O): 1.5 (minimum)
to 8 (maximum).
Do measured and/or calculated pressure drop(s) fall outside of
recommended range?
☐ Yes ☐ No (If yes, contact the Bureau.)

* K Factor determined from Appendix C, Table 2 in Revised Permit Manual.

7. Type of fabric used in baghouse: Cellulose and synthetic fibers

Operating temperature: Recommended* _____ °F; Normal Ambient °F
Maximum _____ °F

Does the maximum operating temperature exceed the recommended operating temperatures?

☐ Yes ☒ No (If yes, contact the Bureau.)

* Obtain from Appendix C, Table 1 of the Revised Permit Manual.

8. Indicate which of the following are components of this baghouse:

<input type="checkbox"/> Flow Rate Instrumentation	<input type="checkbox"/> Inlet Gas Temperature Instrumentation
<input type="checkbox"/> Dew Point Indicator	<input type="checkbox"/> Differential Pressure Instrumentation
<input type="checkbox"/> Heat Exchanger	<input type="checkbox"/> Evaporative Cooler
<input type="checkbox"/> Transmissometer	<input type="checkbox"/> Other (Describe) _____

9. Operation of Baghouse: ☐ Continuous ☒ Intermittent

Baghouse Inlet (dirty gas): ☒ Bottom Feed ☐ Top Feed
☐ Exterior Filtration ☐ Tangential

Other (Describe): _____

Does the baghouse have a wear resistant plate? ☐ Yes ☒ No

Baghouse Shape: ☒ Rectangular ☐ Cubical ☐ Cylindrical

Other (Describe): _____

Size of Baghouse (volume): 36.42 ft³

Give dimensions (ft): 4.58 Height; 4.15 Length;
1.92 Width

Shell Material: _____

10. Bag Cleaning Method (check one):

A. Fabric Flexing

B. Reverse Air Cleaning

☐ Mechanical Shaking and Rapping

☒ Reverse Jet

☐ Sonic Cleaning

☐ Reverse Flow

☐ Collapse Cleaning

☐ Manual Cleaning

☐ Pulse (Pressure) - Jet Cleaning

Filter Configuration: ☐ Panels ☐ Circular Cross-Section Tube
☐ Multiple Tube Bag ☒ Other (Describe): Cartridges

Filter Fabric: ☒ Felted ☐ Woven

Filter Area: 720 ft²

Number of filters per compartment: 3

Number of compartments: 1

12. Dust Size Distribution in Microns (μ):

Dust Type(s): _____

Size	0 - 5 μ	5 - 10 μ	10 - 20 μ	20 - 44 μ	Greater than 44 μ
Give by Weight	%	%	%	%	%

Moisture in gas stream: _____ %

13. Dust Disposal Method: ☐ Automatic (screw conveyor, etc.) ☒ Manual

Describe: Dust is emptied from baghouse hopper into an open dump-hopper.

How often are hoppers emptied? Every 48 hours

Give name of commercial disposal company (if applicable): _____

Is disposed material wetted before transported? ☐ Yes ☒ No

Site of disposal: Company-owned landfill

14. Particulate Control Efficiency:

Manufacturer's stated efficiency: 99+ %

Required efficiency: _____ %

Operation efficiency (performance testing): _____ %

15. Location of the fan: ☒ Clean air side (pull thru)
☐ Dirty air side (push thru)

Fan Design (check one - A, B or C)

TYPE FAN	TYPE BLADE
A. <input checked="" type="checkbox"/> Centrifugal (radial flow)	<input type="checkbox"/> Forward Curve <input type="checkbox"/> Backward Curve <input type="checkbox"/> Straight
B. <input type="checkbox"/> Axial-flow (propeller)	<input type="checkbox"/> Propeller <input type="checkbox"/> Tube Axial <input type="checkbox"/> Vane Axial

Fan Data:

Diameter: 20 inches Braking Horsepower: 2 BHP
Speed: 3450 RPM Inlet Area: 0.44 ft²
Volume: 1050 cfm @ STP Outlet Area: 0.2 ft²
Static Motor Horsepower: 2 HP
Pressure: 3 inches WC

☒ Standard ☐ Heavy Duty

Submitted a copy of Manufacturer's Multirating Tables: ☐ Yes ☒ No

Special Materials of Construction:

☐ Bronze Alloys ☐ Aluminum ☐ Stainless Steel ☐ Bisonite
☐ Zinc Chromate Primer ☐ Rubber, Phenolics, Vinyls, or Epoxy Covering

C. ☐ Compressor ☐ Positive Displacement ☐ Dynamic ☐ Reciprocating

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: *Jim Walker*

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400350-35C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☐ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: E010, E102, E106

10. Equipment Name: Macawber Pneumatic Sand Transporter (Airset Track)

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☒ YES ☐ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

25 Tons/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

____ Permit Fee _____ Hours Technical Research and Computer Time

____ Inspection Approval Date Inspected: _____

____ Reviewed by Supervisor

____ Check Received. Amount _____ Check Number _____ Date _____

____ Updated on Computer

____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

PROCESS EQUIPMENT APPLICATION

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): Macawber Pneumatic Sand
Transporter (Airset Track)
3. Type of Process: pneumatic conveying of sand.
4. Major Raw Materials Processed: sand

5. Date of installation, initial start-up, or alternation (such that potential emissions were increased) of equipment or device for which permit is applied for:

- ☐ Before January 1, 1973 - Schedule 1
- ☒ After January 1, 1973 - Schedule 2

6. Process Weight: 50,000 lbs/hr

(This is the total weight of all materials introduced into the process expressed in lbs/hr.)

7. Control Equipment Data:

- A. ☐ Emissions Uncontrolled
- B. ☒ Baghouse (File Form E102)
- C. ☐ Wet Collecting Device (File Form E103)
- D. ☐ Electrostatic Precipitator (File Form E104)
- E. ☐ Inertial Separators (File Form E105)
- F. ☐ Other - Specify _____

8. Control Equipment Efficiency for each pollutant emitted by this equipment (from appropriate Form E102, E103, E104, E105, E107 or enter zeros if A is checked in Item 7):

		% EFFICIENCY
Other:	Particulates	99
	SO _x	
	NO _x	
	CO	
	Hydrocarbons	

9. Actual Particulate Emissions:

A. Uncontrolled Emissions: 90 lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{0.9} \text{ lbs/hr}$

10. Actual Sulfur Oxide Emissions:

N/A Specify air required for process: _____ SCFM

A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}} \text{ lbs/hr}$

11. Allowable Nitrogen Oxide Emissions:

N/A A. Nitric Acid Plants Emission Limitation (Allowable emissions will be in Item 7 on Form E101): _____ lbs/hr as NO₂

B. All other process equipment emission limitations: ☐ No Requirement

12. Nitrogen Oxide Emissions (lbs/hr as NO₂):

N/A A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}} \text{ lbs/hr}$

13. Other Air Contaminant Emissions - Specify:

N/A

AIR CONTAMINANT

AMOUNT EMITTED (lbs/hr)

☐ The values shown were determined by actual stack test.
(Submit a copy of stack test with full details).

☐ The values shown were estimated.
(File Form E106 for each pollutant shown).

14. Those emissions indicated in Item 13 may at times under normal operating conditions cause (check one or more):

☐ Odors ☐ Eye Irritations
☐ Property Damage ☐ Other nuisances outside of plant property
☐ Health Effects ☒ No environmental damage

15. Emission Point Data:

Stack Height (emission point) above ground: 15 ft
Ground Elevation above sea level at stack base: 660 ft
Stack Diameter: .5 ft
Volume of gas discharged into atmosphere: 1000 cfm
Gas exit temperature: Ambient °F

16. Average Equipment Operating Time: A. Daily 6 hours
B. Weekly 3 days
C. Yearly 48 weeks

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: *John A. Allmon*

Signature

Title: Plant Engineer

Date: 11-5-90

NOTE: Equipment must also meet Visible Emission Code.

DO NOT WRITE BELOW THIS LINE

Information approved and entered on Permit Inspection Form (Engineer)

 lbs/hr (allowable particulate emissions) PPM by volume as SO₂

UTM Coordinates of Company: EW NS

This form corresponds to permit number:

Special Notations:

POLLUTION ESTIMATION FORM

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY

2. Equipment Name (as shown on Line 10, Form E001): Macawber Pneumatic Sand Transporter (Airset Track)

3. Type of pollutant for which estimation is made: Particulate

4. Pollutant Emission Factor (PEF): 3.6 Lbs/Ton
(Give value & units in lbs/ton, lbs/lbs, lbs/gal, gr/ft³, etc.)
 Source of Emission Factor: AP-42

5. Uncontrolled Pollution Emission Rate:
3.6 Lbs/Ton X 25 Tons/Hr = 90 Lbs/Hr
(PEF from Item 4) (Give operating rate for this equipment and the appropriate units in either lbs/hr, tons/hr, gal/hr, or CFM) (Give value & units)

6. Uncontrolled Pollution Emission Rate: 90 lbs emitted/hr
(from Item 5 convert to lbs/hr)

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail to:
 CHATTANOOGA-HAMILTON COUNTY
 AIR POLLUTION CONTROL BUREAU
 3511 Rossville Boulevard
 Chattanooga, Tennessee 37407

Company Official: *James Hallwood*
 Title: Plant Engineer
 Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Engineer Approval _____

This form corresponds to permit number: _____

Special Notations: _____

BAGHOUSE
AIR POLLUTION CONTROL EQUIPMENT DATA

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): Macawber Pneumatic Sand Transporter (Airset Track)

3. Manufacturer of Baghouse: Farr
- Model Number: 3C Cost of Baghouse: \$2500

4. Does baghouse contain pre-cleaning equipment: ☐ Yes ☒ No
- If yes, what type: _____
- (File applicable form for control equipment).

5. A. Volume of gas discharged from baghouse at dry standard conditions:
1,000 dscfm
- B. Total cloth area of baghouse: 720 ft²
- Air to cloth ratio: (A.) CFM divided by (B.) ft²
- = 1.4 ft/min

*See Appendix C, Table 3 in Revised Permit Manual.

6. Pressure drop across baghouse:
- Stated by manufacturer: 3 inches of H₂O.
- Measured (actual): _____ inches of H₂O.
- Calculated: _____ X _____
(K Factor*) (Air to cloth ratio in ft/min)
- = _____ inches of H₂O
- The recommended pressure drop range (inches of H₂O): 1.5 (minimum) to 8 (maximum).
- Do measured and/or calculated pressure drop(s) fall outside of recommended range?
- ☐ Yes ☐ No (If yes, contact the Bureau.)

*K Factor determined from Appendix C, Table 2 in Revised Permit Manual.

7. Type of fabric used in baghouse: Cellulose and synthetic fibers
Operating temperature: Recommended* _____ °F; Normal Ambient °F
Maximum _____ °F
Does the maximum operating temperature exceed the recommended operating temperatures?
☐ Yes ☒ No (If yes, contact the Bureau.)
* Obtain from Appendix C, Table 1 of the Revised Permit Manual.

8. Indicate which of the following are components of this baghouse:
- | | |
|--|--|
| <input type="checkbox"/> Flow Rate Instrumentation | <input type="checkbox"/> Inlet Gas Temperature Instrumentation |
| <input type="checkbox"/> Dew Point Indicator | <input type="checkbox"/> Differential Pressure Instrumentation |
| <input type="checkbox"/> Heat Exchanger | <input type="checkbox"/> Evaporative Cooler |
| <input type="checkbox"/> Transmissometer | <input type="checkbox"/> Other (Describe) _____ |

9. Operation of Baghouse: ☐ Continuous ☒ Intermittent
Baghouse Inlet (dirty gas): ☒ Bottom Feed ☐ Top Feed
☐ Exterior Filtration ☐ Tangential
Other (Describe): _____
Does the baghouse have a wear resistant plate? ☐ Yes ☒ No
Baghouse Shape: ☒ Rectangular ☐ Cubical ☐ Cylindrical
Other (Describe): _____
Size of Baghouse (volume): 36.42 ft³
Give dimensions (ft): 4.58 Height; 4.15 Length;
1.92 Width
Shell Material: _____

10. Bag Cleaning Method (check one):
- | | |
|--|---|
| A. Fabric Flexing | B. Reverse Air Cleaning |
| <input type="checkbox"/> Mechanical Shaking and Rapping | <input checked="" type="checkbox"/> Reverse Jet |
| <input type="checkbox"/> Sonic Cleaning | <input type="checkbox"/> Reverse Flow |
| <input type="checkbox"/> Collapse Cleaning | <input type="checkbox"/> Manual Cleaning |
| <input type="checkbox"/> Pulse (Pressure) - Jet Cleaning | |

Filter Configuration: ☐ Panels ☐ Circular Cross-Section Tube
☐ Multiple Tube Bag ☒ Other (Describe): _____
 Filter Fabric: ☒ Felted ☐ Woven
 Filter Area: 720 ft²
 Number of filters per compartment: 3
 Number of compartments: 1

12. Dust Size Distribution in Microns (μ):

Dust Type(s): _____

Size	0 - 5 μ	5 - 10 μ	10 - 20 μ	20 - 44 μ	Greater than 44 μ
Give by Weight	%	%	%	%	%

Moisture in gas stream: _____ %

13. Dust Disposal Method: ☐ Automatic (screw conveyor, etc.) ☒ Manual

Describe: Dust is emptied from baghouse hopper into an open dump-hopper.

How often are hoppers emptied? Every 48 hours

Give name of commercial disposal company (if applicable): _____

Is disposed material wetted before transported? ☐ Yes ☒ No

Site of disposal: Company-owned landfill

14. Particulate Control Efficiency:

Manufacturer's stated efficiency: 99+ %

Required efficiency: _____ %

Operation efficiency (performance testing): _____ %

5. Location of the fan: ☒ Clean air side (pull thru)
☐ Dirty air side (push thru)

Fan Design (check one - A, B or C)

TYPE FAN	TYPE BLADE
A. <input checked="" type="checkbox"/> Centrifugal (radial flow)	<input type="checkbox"/> Forward Curve <input type="checkbox"/> Backward Curve <input type="checkbox"/> Straight
B. <input type="checkbox"/> Axial-flow (propeller)	<input type="checkbox"/> Propeller <input type="checkbox"/> Tube Axial <input type="checkbox"/> Vane Axial

Fan Data:

Diameter: 20 inches Braking Horsepower: 2 BHP
Speed: 3450 RPM Inlet Area: 0.44 ft²
Volume: 1050 cfm @ STP Outlet Area: 0.2 ft²
Static Motor Horsepower: 2 HP
Pressure: 3 inches WC

☒ Standard ☐ Heavy Duty

Submitted a copy of Manufacturer's Multirating Tables: ☐ Yes ☒ No

Special Materials of Construction:

☐ Bronze Alloys ☐ Aluminum ☐ Stainless Steel ☐ Bisonite

☐ Zinc Chromate Primer ☐ Rubber, Phenolics, Vinyls, or Epoxy Covering

C. ☐ Compressor ☐ Positive Displacement ☐ Dynamic ☐ Reciprocating

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: *Jim Hallway*

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400350-38C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☐ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: E010, E102, E106

10. Equipment Name: Macawber Pneumatic Sand Transporter (Airset Silo)

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☒ YES ☐ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

25 Tons/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

John Hallward
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

PROCESS EQUIPMENT APPLICATION

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): Macawber Pneumatic Sand
Transporter (Airset Silo)
3. Type of Process: pneumatic conveying of sand
4. Major Raw Materials Processed: sand

5. Date of installation, initial start-up, or alternation (such that potential emissions were increased) of equipment or device for which permit is applied for:

☐ Before January 1, 1973 - Schedule 1

☒ After January 1, 1973 - Schedule 2

6. Process Weight: 50,000 lbs/hr

(This is the total weight of all materials introduced into the process expressed in lbs/hr.)

7. Control Equipment Data:

A. ☐ Emissions Uncontrolled

B. ☒ Baghouse (File Form E102)

C. ☐ Wet Collecting Device (File Form E103)

D. ☐ Electrostatic Precipitator (File Form E104)

E. ☐ Inertial Separators (File Form E105)

F. ☐ Other - Specify _____

8. Control Equipment Efficiency for each pollutant emitted by this equipment (from appropriate Form E102, E103, E104, E105, E107 or enter zeros if A is checked in Item 7):

		% EFFICIENCY
	Particulates	99
	SO _x	
	NO _x	
	CO	
	Hydrocarbons	
Other:		

9. Actual Particulate Emissions:

A. Uncontrolled Emissions: 90 lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{0.9}$ lbs/hr

10. Actual Sulfur Oxide Emissions:

N/A Specify air required for process: _____ SCFM

A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}}$ lbs/hr

11. Allowable Nitrogen Oxide Emissions:

N/A A. Nitric Acid Plants Emission Limitation (Allowable emissions will be in Item 7 on Form E101): _____ lbs/hr as NO₂

B. All other process equipment emission limitations: ☐ No Requirement

12. Nitrogen Oxide Emissions (lbs/hr as NO₂):

N/A A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}}$ lbs/hr

13. Other Air Contaminant Emissions - Specify:

N/A

<u>AIR CONTAMINANT</u>	<u>AMOUNT EMITTED (lbs/hr)</u>
_____	_____
_____	_____
_____	_____

☐ The values shown were determined by actual stack test.
(Submit a copy of stack test with full details).

☐ The values shown were estimated.
(File Form E106 for each pollutant shown).

14. Those emissions indicated in Item 13 may at times under normal operating conditions cause (check one or more):

☐ Odors ☐ Eye Irritations
☐ Property Damage ☐ Other nuisances outside of plant property
☐ Health Effects ☒ No environmental damage

15. Emission Point Data:

Stack Height (emission point) above ground: 25 ft
Ground Elevation above sea level at stack base: 660 ft
Stack Diameter: .5 ft
Volume of gas discharged into atmosphere: 1000 cfm
Gas exit temperature: Ambient °F

16. Average Equipment Operating Time: A. Daily 6 hours
B. Weekly 3 days
C. Yearly 48 weeks

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: Joe Hallwood

Signature

Title: Plant Engineer

Date: 11-5-90

NOTE: Equipment must also meet Visible Emission Code.

DO NOT WRITE BELOW THIS LINE

Information approved and entered on Permit Inspection Form (Engineer)

 lbs/hr (allowable particulate emissions) PPM by volume as SO₂

UTM Coordinates of Company: EW NS

This form corresponds to permit number:

Special Notations:

POLLUTION ESTIMATION FORM

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY

2. Equipment Name (as shown on Line 10, Form E001): Macawber Pneumatic Sand Transporter (Airset Silo)

3. Type of pollutant for which estimation is made: Particulate

4. Pollutant Emission Factor (PEF): 3.6 Lbs/Ton
(Give value & units in lbs/ton, lbs/lbs, lbs/gal, gr/ft³, etc.)
Source of Emission Factor: AP-42

5. Uncontrolled Pollution Emission Rate:
3.6 Lbs/Ton X 25 Tons/Hr = 90 Lbs/Hr
(PEF from Item 4) (Give operating rate for this equipment and the appropriate units in either lbs/hr, tons/hr, gal/hr, or CFM) (Give value & units)

6. Uncontrolled Pollution Emission Rate: 90 lbs emitted/hr
(from Item 5 convert to lbs/hr)

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: *Joe Bell*
Title: Plant Engineer
Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____

BAGHOUSE
AIR POLLUTION CONTROL EQUIPMENT DATA

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): Macawber Pneumatic Sand Transporter (Airset Silo)

3. Manufacturer of Baghouse: Farr
- Model Number: 3C Cost of Baghouse: \$2500

4. Does baghouse contain pre-cleaning equipment: ☐ Yes ☒ No

If yes, what type: _____
(File applicable form for control equipment).

5. A. Volume of gas discharged from baghouse at dry standard conditions:

1,000 dscfm

- B. Total cloth area of baghouse: 720 ft²

Air to cloth ratio*: (A.) CFM divided by (B.) ft²

= 1.4 ft/min

* See Appendix C, Table 3 in Revised Permit Manual.

6. Pressure drop across baghouse:

Stated by manufacturer: 3 inches of H₂O.

Measured (actual): _____ inches of H₂O.

Calculated: _____ X _____
(K Factor*) (Air to cloth ratio in ft/min)
= _____ inches of H₂O

The recommended pressure drop range (inches of H₂O): 1.5 (minimum) to 8 (maximum).

Do measured and/or calculated pressure drop(s) fall outside of recommended range?

☐ Yes ☐ No (If yes, contact the Bureau.)

* K Factor determined from Appendix C, Table 2 in Revised Permit Manual.

7. Type of fabric used in baghouse: Cellulose and synthetic fibers
Operating temperature: Recommended* _____°F; Normal Ambient °F
Maximum _____°F
Does the maximum operating temperature exceed the recommended operating temperatures?
☐ Yes ☒ No (If yes, contact the Bureau.)

* Obtain from Appendix C, Table 1 of the Revised Permit Manual.

8. Indicate which of the following are components of this baghouse:

- | | |
|--|--|
| <input type="checkbox"/> Flow Rate Instrumentation | <input type="checkbox"/> Inlet Gas Temperature Instrumentation |
| <input type="checkbox"/> Dew Point Indicator | <input type="checkbox"/> Differential Pressure Instrumentation |
| <input type="checkbox"/> Heat Exchanger | <input type="checkbox"/> Evaporative Cooler |
| <input type="checkbox"/> Transmissometer | <input type="checkbox"/> Other (Describe) _____ |

9. Operation of Baghouse: ☐ Continuous ☒ Intermittent
Baghouse Inlet (dirty gas): ☒ Bottom Feed ☐ Top Feed
☐ Exterior Filtration ☐ Tangential
Other (Describe): _____
Does the baghouse have a wear resistant plate? ☐ Yes ☒ No
Baghouse Shape: ☒ Rectangular ☐ Cubical ☐ Cylindrical
Other (Describe): _____
Size of Baghouse (volume): 36.42 ft³
Give dimensions (ft): 4.58 Height; 4.15 Length;
1.92 Width
Shell Material: _____

10. Bag Cleaning Method (check one):
- | | |
|--|---|
| <u>A. Fabric Flexing</u> | <u>B. Reverse Air Cleaning</u> |
| <input type="checkbox"/> Mechanical Shaking and Rapping | <input checked="" type="checkbox"/> Reverse Jet |
| <input type="checkbox"/> Sonic Cleaning | <input type="checkbox"/> Reverse Flow |
| <input type="checkbox"/> Collapse Cleaning | <input type="checkbox"/> Manual Cleaning |
| <input type="checkbox"/> Pulse (Pressure) - Jet Cleaning | |

Filter Configuration: ☐ Panels ☐ Circular Cross-Section Tube

☐ Multiple Tube Bag ☒ Other (Describe): Cartridges

Filter Fabric: ☒ Felted ☐ Woven

Filter Area: 720 ft²

Number of filters per compartment: 3

Number of compartments: 1

12. Dust Size Distribution in Microns (μ):

Dust Type(s): _____

Size	0 - 5 μ	5 - 10 μ	10 - 20 μ	20 - 44 μ	Greater than 44 μ
Give by Weight	%	%	%	%	%

Moisture in gas stream: _____ %

13. Dust Disposal Method: ☐ Automatic (screw conveyor, etc.) ☒ Manual

Describe: Dust is emptied from baghouse hopper into an open dump-hopper.

How often are hoppers emptied? Every 48 hours

Give name of commercial disposal company (if applicable): _____

Is disposed material wetted before transported? ☐ Yes ☐ No

Site of disposal: Company-owned landfill

14. Particulate Control Efficiency:

Manufacturer's stated efficiency: 99+ %

Required efficiency: _____ %

Operation efficiency (performance testing): _____ %

15. Location of the fan: ☒ Clean air side (pull thru)
☐ Dirty air side (push thru)

Fan Design (check one - A, B or C)

TYPE FAN	TYPE BLADE								
A. <input checked="" type="checkbox"/> Centrifugal (radial flow)	<input type="checkbox"/> Forward Curve <input type="checkbox"/> Backward Curve <input type="checkbox"/> Straight								
B. <input type="checkbox"/> Axial-flow (propeller)	<input type="checkbox"/> Propeller <input type="checkbox"/> Tube Axial <input type="checkbox"/> Vane Axial								
<p>Fan Data:</p> <table><tbody><tr><td>Diameter: 20 inches</td><td>Braking Horsepower: 2 BHP</td></tr><tr><td>Speed: 3450 RPM</td><td>Inlet Area: 0.44 ft²</td></tr><tr><td>Volume: 1050 cfm @ STP</td><td>Outlet Area: 0.2 ft²</td></tr><tr><td>Static Pressure: 3 inches WC</td><td>Motor Horsepower: 2 HP</td></tr></tbody></table> <p><input checked="" type="checkbox"/> Standard <input type="checkbox"/> Heavy Duty</p> <p>Submitted a copy of Manufacturer's Multirating Tables: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Special Materials of Construction:</p> <p><input type="checkbox"/> Bronze Alloys <input type="checkbox"/> Aluminum <input type="checkbox"/> Stainless Steel <input type="checkbox"/> Bisonite</p> <p><input type="checkbox"/> Zinc Chromate Primer <input type="checkbox"/> Rubber, Phenolics, Vinyls, or Epoxy Covering</p>		Diameter: 20 inches	Braking Horsepower: 2 BHP	Speed: 3450 RPM	Inlet Area: 0.44 ft ²	Volume: 1050 cfm @ STP	Outlet Area: 0.2 ft ²	Static Pressure: 3 inches WC	Motor Horsepower: 2 HP
Diameter: 20 inches	Braking Horsepower: 2 BHP								
Speed: 3450 RPM	Inlet Area: 0.44 ft ²								
Volume: 1050 cfm @ STP	Outlet Area: 0.2 ft ²								
Static Pressure: 3 inches WC	Motor Horsepower: 2 HP								
C. <input type="checkbox"/> Compressor	<input type="checkbox"/> Positive Displacement <input type="checkbox"/> Dynamic <input type="checkbox"/> Reciprocating								

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: *Jim Ballard*

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400301-39C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Ductile Iron Treating and #9 Shakeout

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

475,000 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

____ Permit Fee _____ Hours Technical Research and Computer Time

____ Inspection Approval Date Inspected: _____

____ Reviewed by Supervisor

____ Check Received. Amount _____ Check Number _____ Date _____

____ Updated on Computer

____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400301-40C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Melting Facilities

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

57,800 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

____ Permit Fee _____ Hours Technical Research and Computer Time

____ Inspection Approval Date Inspected: _____

____ Reviewed by Supervisor

____ Check Received. Amount _____ Check Number _____ Date _____

____ Updated on Computer

____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400350-44C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Molding Sand Relamation Equipment

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

30,000 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:

CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-45C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: R S Valve Cleaning - Pangborn Blast Cleaner

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

2,100 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Jama Hallwood
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

____ Permit Fee _____ Hours Technical Research and Computer Time

____ Inspection Approval Date Inspected: _____

____ Reviewed by Supervisor

____ Check Received. Amount _____ Check Number _____ Date _____

____ Updated on Computer

____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400358-46C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013; ☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Screening Drum Cyclone

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

360,000 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:

CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

____ Permit Fee _____ Hours Technical Research and Computer Time

____ Inspection Approval Date Inspected: _____

____ Reviewed by Supervisor

____ Check Received. Amount _____ Check Number _____ Date _____

____ Updated on Computer

____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

**SUPPLEMENTAL ENVIRONMENTAL
PROJECT REPORT
OF THE UNITED STATES PIPE & FOUNDRY CO., INC.**



**Docket No: 724
Notice of Violation #5738**

Pursuant to an Agreed Order of December 1, 1997, U.S. Pipe and Foundry Company (U. S. Pipe) agreed to undertake a pollution prevention supplemental project to reduce emissions related to the No. 9 molding unit at U.S. Pipe. U.S. Pipe was to retain the consulting services of Furness-Newbuge, Inc., 743 Virginia Avenue, Versailles, Kentucky 40383 for the purposes of obtaining specific engineering suggestions regarding reducing emissions from the Unit No. 9 shakeout stack for vibrating screen/conveyor. The dollar value set for such consulting services and improvements or process changes was to be in an amount not less than Twenty Thousand Dollars (\$20,000.00).

Further, pursuant to the Order, U.S. Pipe was to report on or before August 1, 1998, including the provision of checks, invoices or receipts demonstrating the above expenditure, as well as a copy of the report from Furness-Newbuge as to recommendations.

Pursuant to said Order, U.S. Pipe does hereby submit the following report. The report details the actions taken to reduce emissions. It is consistent and in keeping with the interim revised EPA Supplemental Projects Policy referenced in the Agreed Order in that said project on behalf of U.S. Pipe included equipment and/or technology modifications, process and/or procedure modifications, substitution of raw materials, and/or improvements in housekeeping, maintenance, training or other operation and maintenance procedures.

U.S. Pipe would respectfully submit that it has satisfactorily completed the Supplemental Environmental Project. The SEP required the expenditure of Twenty Thousand Dollars (\$20,000.00) relating to the reduction of emissions from the Unit No. 9 shakeout stack. The EPA policy relating to a SEP provides that a SEP is satisfactorily completed if the defendant or respondent has spent at least 90% of the amount of money required to be spent for the project. U.S. Pipe would submit that it has expended \$148,288.60 (see Exhibit 2 attached hereto).

In that this report contains confidential information relating to the company, the company would request that this SEP report and its attachments be protected and treated as confidential from disclosure.

U.S. Pipe did, in fact, pursuant to the Order, retain the services of Jim Furness of Furness-Newburge, Inc. The report of Jim Furness is attached hereto as Exhibit 1. Said report provides an overview of Furness's recommendations and U.S. Pipe's efforts in reducing visible emissions from the #9 Unit stack. Further attached hereto is the appropriate documentation related to the costs incurred with said retention as a portion of Exhibit 2.

Furness-Newburge recommended to reduce emissions, the purchase and installation of Hartley Controls for the sand mullers. Based upon the Furness-Newburge recommendations, capital monies were requested from U. S. Pipe's corporate office in January, 1998, were approved in March, 1998, and an order was placed with Hartley Controls in March, 1998. Installation took place between June 20, 1998, and July 2, 1998, with the new system controlling the mullers when production started on July 6, 1998. Documentation relating to the purchase of the Hartley controls is a portion of the attached Exhibit 2.

As noted in the Furness-Newburge report, the company worked with its suppliers to obtain alternate chemical resins used in the core-making process. The company implemented the use of different resins to effectively reduce emissions while still producing cores with the necessary characteristics.

Based on the further recommendation by Furness-Newburge, the company has installed and begun operation of equipment described in the Furness-Newburge report under recommendations and actions taken by the company, subparagraph D, relating to oxygenation of water so as to further reduce emissions.

As noted above and as set forth in the Agreed Order, the company has attached appropriate documents demonstrating the purchase of the consulting services as well as demonstrating the dollar value of such consulting services and improvements, said amount exceeding the Twenty Thousand Dollars (\$20,000.00) set forth in the Order and said amount being \$148,288.60.

Therefore, again, the company would submit that it has satisfactorily completed the supplemental project.

Respectfully submitted this the 31st day of July, 1998.

U.S. PIPE AND FOUNDRY COMPANY, INC

BY: Wayne A. Berry
Wayne A. Berry
ITS: Plant Manager

Exhibit 1

FURNESS-NEWBURGE,INC Report

FURNESS-NEWBURGE, INC.

143 VIRGINIA AVENUE
VERSAILLES, KY 40383
606 873 0328

July 29, 1998

**FINDINGS, ACTIONS AND RECOMMENDATIONS FOR AIR POLLUTION
REDUCTION AT THE U. S. PIPE FOUNDRY IN CHATTANOOGA**

Notice of Violation No. 5738.

OVERVIEW

Our firm was retained after the foundry received a Notice of Violation alleging excess opacity from the stack venting the basement near the casting shakeout where sand is removed from the hot solidified metal on the #9 molding line. We were asked to investigate the causes of the excess opacity, make recommendations to reduce the stack opacity and explore the possibility of implementing "Sand System Optimization" techniques to reduce the air emissions from this molding line. The foundry was very receptive to innovation and has gone well beyond the original "investigation and recommendation" steps. It has already started to implement and install additional equipment and management controls to reduce the air emissions to the lowest practical level for this operation. The stack opacity has been substantially reduced and additionally the overall smoke from the foundry has also been reduced. Sand system mulling/mixing controls have been upgraded to state of the art and an innovative "Advanced Oxidation" system has been installed to treat the water used in the molding process.

INITIAL INVESTIGATION

When we first started this project an interview with key foundry personnel informed us that the foundry had already contacted its supplier of chemical resins used in the core sand for help in minimizing the smoke from the decomposition of these resins during the casting process. I was informed that the lowest smoke level producing product was already being implemented and the calibration of the mixers was being checked to insure the minimum amount of resin to safely produce a quality core was used. I also inquired as to the organic level in the molding sand. I was informed that a 3%-3.5% level was normal. This is lower than normal for iron castings of this size where a more typical combustible level is well above 4%.

A tour of the facility revealed that the opacity from the stack in question had already declined. The company's implementation of a sand system with a lower than normal organic additive level for this size iron casting would positively reduce emissions. However, with this improvement there was still more smoke than what I would have anticipated. Also, for the company's low level of combustible materials and sand, there seemed to be more gas from the mold during pouring than I would have anticipated again from the company's better than normal practice.

We toured the core room and found resin levels at the time of my visit were within normal range, but on the high side of normal. However, we ruled out cores as the cause of any excess smoke.

We next visited the sand laboratory to review the sand properties and past records. The sand technician was introduced and asked how the moisture in the molding sand was controlled. He demonstrated the moisture testing equipment and showed us his logs for that day. The moisture was what I considered high for the level of clay in the sand and the type of casting being produced. A check of the records indicated that the moisture in the sand around the date of the Notice of Violation was high as well.

CONCLUSIONS FROM INITIAL INVESTIGATION

A possible scenario for the date for which the Notice of Violation was issued would be:

- a. High core sand resin levels. This would normally affect emissions but not enough to create the condition without other contributing factors.
- b. Molding sand combustible levels were very low. This would normally decrease emissions.
- c. Purchased clay bonding mix had a very low combustible level. This would normally substantially reduce emissions.
- d. Moisture levels in the molding sand were elevated.

When the amount of excess water in the sand was calculated from the records, we found that in the worst case scenario 150 to 200 pounds per minute of excess water could have been in the sand at the time of the Notice of Violation. Some of this excess water would be exposed to molten metal with temperatures well in excess of 2000 degrees F. At these temperatures superheated steam expands at extremely high velocity stripping fine particulate that would normally remain with the sand particle.

RECOMMENDATIONS AND ACTIONS TAKEN BY COMPANY

Based upon observations a meeting was conducted with all supervisory personnel to explain the impact on air emissions from the excess moisture and core binder levels. This meeting became a training forum to discuss how everyday foundry production issues can contribute to air emissions. The most important actions taken are as follows:

- a. Core handling practice contributes greatly to broken cores. Broken cores lead to increased binder levels to prevent breakage. This is an ongoing problem in all foundries. Forklift operating procedures can also contribute to broken cores. Some foam rubber padding is now used during transport instead of mostly cardboard to reduce core breakage.
- b. Calibration of the core sand mixers was in need of review. It was pointed out that there was no way to accurately and continuously monitor resin and catalyst consumption and then compare this consumption to the pounds of sand being fed to the mixers.
- c. The frequency of moisture testing in the green sand system did not and could not meet the production needs. A new state of the art computerized mixer/muller control system was installed on this molding line. Moisture is now tested and adjusted for optimum levels on every batch of sand mixed. This has already reduced visible emissions as well as improved the overall foundry operation. Since this addresses the "root cause" of the Notice of Violation, we were pleased by the result of this project.
- d. The concept of emission reduction and process optimization by "Sonoperoxone™ Advanced Oxidation" was explained. The foundry had already seen the results of the installation of this process at another Chattanooga foundry and was very supportive of this new technology. A variation of the original concept is in the initial installation and start up phase as this report is being written.

I found the staff at this foundry unusually receptive to the concept of optimization of the installed systems.

Furness-Newburge, Inc.
Jim Furness

Exhibit 2

Pg 1 P.O. # F93180597

Pg 2 Computerized record showing payment of \$6946.25 as of 7/27/98

Pg 3-5 Invoices totaling \$4703.85 not yet paid

Pg 6 P. O. # F102570398 To Hartley Controls for 2 ea automated sand controllers

Pg 7-8 P.O.s for related equipment and services

Pg 9 P.O. # F73990398



UNITED STATES PIPE AND FOUNDRY COMPANY, INC.
PURCHASING DEPARTMENT

F93180597
PURCHASE ORDER

PAGE 1

BLANKET RELEASE

BILL TO: UNITED STATES PIPE & FOUNDRY
ATTN: ACCOUNTS PAYABLE
P.O. BOX 10406
BIRMINGHAM, AL

CHANGE ORDER

PURCHASE ORDER NUMBER AND RELEASE NUMBER WHEN APPLICABLE MUST APPEAR ON ALL PAPERWORK.
BY SHIPPING THE GOODS LISTED BELOW OR BY ACKNOWLEDGING RECEIPT OF THIS ORDER, HEREAFTER CALLED "CONTRACT",
YOU ACCEPT THE TERMS AND CONDITIONS SET FORTH ON THE FACE SIDE AND THE REVERSE SIDE HEREOF, ANY DIFFERENT
OR ADDITIONAL TERMS IN YOUR ACCEPTANCE OF THIS OFFER ARE HEREBY OBJECTED TO.

35202



FURNESS-NEUBURGE, INC
143 VIRGINIA AVE.
VERSAILLES, KY

SHIP CHATTANOOGA FITTINGS PLANT
ATTN: STORE ROOM
2701 CHESTNUT STREET
CHATTANOOGA, TN

40383

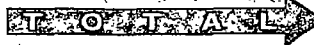
37408

DATE	05/23/97	TERMS	NET 30 DAYS	JOB NUMBER	
SHIP VIA	BEST WAY	F.O.B.	SHIPPING POINT	FREIGHT TERMS	

LINE	QUANTITY	UNIT	VENDOR ITEM NO.	UNIT PRICE	AMOUNT
	DATE DUE	CAT. NO.	ITEM NUMBER		
0001	24,000	EA	5000037	1.00000	24,000.00
	05/23/97	20	5000037	1 88448200 117908	
DESCRIPTION CONTINUED - PROVIDE CONSULTING SERVICES TO U.S. PIPE & FOUNDRY, CHATTANOOGA VALVE & FITTINGS PLANT FOR THE PURPOSE OF MINIMIZING EMISSIONS FROM THE #9 MOLDING UNIT. THIS SERVICE IS TO BE BILLED AT THE RATE OF \$120.00 PER HOUR PLUS EXPENSES. EXPENSES WILL BE APPROVED BY U.S. PIPE.					
CONSULTING SERVICES FOR #9 UNIT EMISSIONS (SEE BELOW)					
CONFIRMATION: DO NOT DUPLICATE					
ATTN: D. URBANIAK					
PURCHASE ORDER NUMBER MUST APPEAR ON ALL PAPERWORK. PAYMENT CANNOT BE REMITTED FOR INVOICES WITHOUT PURCHASE ORDER NUMBER. IF A RELEASE NUMBER HAS BEEN ISSUED, THAT NUMBER MUST APPEAR ALONG WITH THE PURCHASE ORDER NUMBER.					
PGR					

INSTRUCTIONS: READ CAREFULLY

1. COPY OF BILL OF LADING, SHIPPING LIST, OR PACKING SLIP MUST BE MAILED TO ABOVE CONSIGNEE AT TIME OF SHIPMENT
2. ALL PARCEL POST SHIPMENTS ARE TO BE INSURED.
3. RENDER SEPARATE INVOICE IN DUPLICATE FOR EACH SHIPMENT, INCLUDING ORIGINAL BILL OF LADING, OR EXPRESS RECEIPT.
4. OUR PURCHASE ORDER NUMBER MUST BE ON ALL PAPER WORK ATTENDANT TO THIS ORDER.



24,000.00

UNITED STATES PIPE AND FOUNDRY COMPANY, INC.

12

BY

SALES OR USE TAX
PERMIT NUMBERS

Direct Pay Permit: Alabama
State No. 10
Jefferson County No. JC 10
Birmingham No. 88M 10

Direct Pay Permit: Tennessee
Fittings Plant 2-133429804-003-8
Valve & Hydrant Plant 2-133429804-002-1

Direct Pay Permit: New Jersey
DP-133-429-804/000

California: Invoice applicable taxes

ACCOUNTS PAYABLE

MWPS011582

JACKINNEY SYSTEMS CICS/HOTPRINT VER 1.3 07/27/98 12:14:58
 SCREEN PRINT OF:UV13 DISTRIBUTE TO:HIHSELF
 REQUESTED BY ID:FHALEXAN NAME:STOREROOM NEAL
 -----10-----20-----30-----40-----50-----60-----70-----80
 AP PURCHASE ORDER TO INVOICE LIST PIL

NEXT FUNCTION: _____ ACTION: _____ 07/27/1998 12:14:39

=====

BUY ENTITY : CTF

PO NUMBER : F93180597 BLANKET RELEASE NBR: _____ PO LINE : _____

N

CURRENCY CODE:

PO PAY	VENDOR NUMBER	INVOICE	INVOICE	DISTR	EXPENSE	AMOUNT	ACT
LINE ENT		NUMBER	DATE	LINE			
0001 GEN	48004	930	06/30/1997	0001		2,093.75	_____
0001 GEN	48004	1105A	08/05/1997	0001		3,232.75	_____
0001 GEN	48004	219	11/19/1997	0001		307.00	_____
0001 GEN	48004	522	02/19/1998	0001		1,312.75	_____

PAGE: 1 STATUS: END OF LIST

MWPS011583

FURNESS-NEWBURGE, INC.
143 Virginia Avenue
Versailles, KY 40383-1137
Tel: 606-873-0328

INVOICE

DATE	INVOICE NO.
6/18/98	919

BILL TO
UNITED STATES PIPE & FOUNDRY COMPANY P.O. BOX 311 CHATTANOOGA, TN 37401 ATTN: Dennis Urbaniak

SHIP TO
CHATTANOOGA FITTINGS PLANT ATTN: STORE ROOM 2701 CHESTNUT STREET CHATTANOOGA, TN 37408

P.O. NO.	TERMS	DUE DATE
F93180597	Net 30	7/18/98

ITEM	DESCRIPTION	QTY	RATE	AMOUNT
HOURS	CONSULTING SERVICES BY JIM FURNESS on emission control from #9 molding unit inclu mfg at foundry on June 9 and travel time (pro rata share)	10.5	120.00	1,260.00
LODGING	MOTEL OR HOTEL (per receipt)	1	78.52	78.52
MILES	CHARGE FOR MILEAGE (pro-rata share)	375	0.315	118.13
MEALS		1	9.14	9.14

OK

to pay

bill

THANK YOU FOR YOUR BUSINESS.

Lynn F.

Total Due: \$1,465.79

MWPS011584

FURNESS-NEWBURGE, INC.
143 Virginia Avenue
Versailles, KY 40383-1137
Tel: 606-873-0328

INVOICE

DATE	INVOICE NO.
7/1/98	803

BILL TO

UNITED STATES PIPE & FOUNDRY COMPANY
P.O. BOX 311
CHATTANOOGA, TN 37401
ATTN: Dennis Urbaniak

SHIP TO

CHATTANOOGA FITTINGS PLANT
ATTN: STORE ROOM
2701 CHESTNUT STREET
CHATTANOOGA, TN 37408

P.O. NO.	TERMS	DUE DATE
F93180597	Net 30	7/31/98

ITEM	DESCRIPTION	QTY	RATE	AMOUNT
HOURS	CONSULTING SERVICES by Jim Furness on emission control from #9 molding unit inclu mtgs at foundry on June 25 and travel time (pro rata share)	7.5	120.00	900.00
LODGING	MOTEL OR HOTEL	1	78.52	78.52
MILES	CHARGE FOR MILEAGE (pro rata share)	375	0.315	118.13

OK

to pay

bill

THANK YOU FOR YOUR BUSINESS.

James F.
Total Due: \$1,096.65

MWPS011585

FURNESS-NEWBURGE, INC.
143 Virginia Avenue
Versailles, KY 40383-1137
Tel: 606-873-0328

INVOICE

DATE	INVOICE NO.
7/22/98	1022

BILL TO

UNITED STATES PIPE & FOUNDRY COMPANY
P.O. BOX 311
CHATTANOOGA, TN 37401

ATTN: Dennis Urbaniak

SHIP TO

CHATTANOOGA FITTINGS PLANT
ATTN: STORE ROOM
2701 CHESTNUT STREET
CHATTANOOGA, TN 37408

P.O. NO.	TERMS	DUE DATE
93180597	Net 30	8/21/98

ITEM	DESCRIPTION	QTY	RATE	AMOUNT
HOURS	CONSULTING SERVICES by Jim Furness on emission control from #9 molding unit inclu mtg at foundry on July 15 and travel time on July 14 & 16	14.5	120.00	1,740.00
LODGING	MOTEL OR HOTEL per receipt	2	73.28	146.56
MILES	CHARGE FOR MILEAGE (R/T KY/TN/KY)	750	0.315	236.25
MEALS		4	4.65	18.60

OK
to pay
will

THANK YOU FOR YOUR BUSINESS.

Signatures

Total Due: \$2,141.41

MWPS011586



UNITED STATES PIPE AND FOUNDRY COMPANY, INC.
PURCHASING DEPARTMENT

F102370398
PURCHASE ORDER

PAGE 1

BLANKET RELEASE

BILL TO UNITED STATES PIPE & FOUNDRY
ATTN: ACCOUNTS PAYABLE
P.O. BOX 10406
BIRMINGHAM, AL

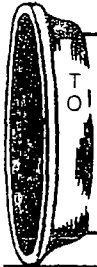
CHANGE ORDER

REPRINT NUMBER

PURCHASE ORDER NUMBER AND RELEASE NUMBER WHEN APPLICABLE MUST APPEAR ON ALL PAPERWORK.
BY SHIPPING THE GOODS LISTED BELOW OR BY ACKNOWLEDGING RECEIPT OF THIS ORDER, HEREAFTER CALLED "CONTRACT",
YOU ACCEPT THE TERMS AND CONDITIONS SET FORTH ON THE FACE SIDE AND THE REVERSE SIDE HEREOF, ANY DIFFERENT
OR ADDITIONAL TERMS IN YOUR ACCEPTANCE OF THIS OFFER ARE HEREBY OBJECTED TO.

0001

33202



HARTLEY CONTROLS CORPORATION
2400 HOLLY RD
NEENAH, WI

SHIP CHATTANOOGA FITTINGS PLANT
ATTN: STORE ROOM
2701 CHESTNUT STREET
CHATTANOOGA, TN

54936

37408

DATE	03/24/98	TERMS	SPEC. HANDLING	JOB NUMBER	37187	.00
SHIP VIA	BEST WAY	F.O.B.	SHIPPING POINT	FREIGHT TERMS	-----	.00

LINE	QUANTITY	UNIT	VENDOR ITEM NO.	UNIT PRICE	AMOUNT
	DATE DUE	CATE NO.	ITEM NUMBER		
	SHIP WEEK OF 8 JUNE 1998				
	TERMS: 10% - W/P.O., 40% - APRIL 15, 1998				
	TERMS: 40% - MAY 15, 1998, 10% - JULY 15, 1998				
0001	2	EA	3000107	44,400.00000	88,800.00
	03/24/98	20	3000107	1 19190400 117000	
	UNIT 5 OF PROPOSAL H-8399				
0002	2	EA	3000107	15,600.00000	31,200.00
	03/24/98	20	3000107	1 19190400 117000	
	UNIT C OF PROPOSAL H-8399				
0003	2	EA	3000107	5,500.00000	CANCELLED
	03/24/98	20	3000107	1 19190400 117000	
	TRADE-IN ON EXISTING CONTROL PANEL				
	CONFIRMATION: DO NOT DUPLICATE				
	ATTN: D. URSANIAK, J. SMALLWOOD REQ#3938				
	PURCHASE ORDER NUMBER MUST APPEAR ON ALL PAPERWORK. PAYMENT CANNOT BE REMITTED FOR INVOICES WITHOUT PURCHASE ORDER NUMBER. IF A RELEASE NUMBER HAS BEEN ISSUED, THAT NUMBER MUST APPEAR ALONG WITH THE PURCHASE ORDER NUMBER. FOR				

INSTRUCTIONS: READ CAREFULLY

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2. ALL PARCEL POST SHIPMENTS ARE TO BE INSURED.
3. RENDER SEPARATE INVOICE IN DUPLICATE FOR EACH SHIPMENT, INCLUDING ORIGINAL BILL OF LADING, OR EXPRESS RECEIPT.
4. OUR PURCHASE ORDER NUMBER MUST BE ON ALL PAPER WORK ATTENDANT TO THIS ORDER.

SALES OR USE TAX
PERMIT NUMBERS

Direct Pay Permit: Alabama
State No. 10
Jefferson County No. LC. 10
Birmingham No. BHM 10

Direct Pay Permit: Tennessee
Fittings Plant 2-133429804-003-8
Valve & Hydrant Plant 2-133429804-002-1

Direct Pay Permit: New Jersey
DP-133-429-804/000

California: Invoice applicable taxes

ACCOUNTS PAYABLE

BY 12

UNITED STATES PIPE AND FOUNDRY COMPANY, INC.

120,000.00

MWPS011587

UNITED STATES PIPE AND FOUNDRY COMPANY, INC.
PURCHASING DEPARTMENT

F102390398
PURCHASE ORDER

PAGE

3

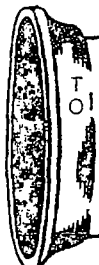
BLANKET RELEASE

BILL TO

UNITED STATES PIPE & FOUNDRY
ATTN: ACCOUNTS PAYABLE
P.O. BOX 10406
BIRMINGHAM, AL

CHANGE ORDER

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OR ADDITIONAL TERMS IN YOUR ACCEPTANCE OF THIS OFFER ARE HEREBY OBJECTED TO.



INDUSTRIAL SCALES & SYSTEMS
SUITE 613
4295 CROMWELL RD.
CHATTANOOGA, TN

SHIP TO CHATTANOOGA FITTINGS PLANT
ATTN: STORE ROOM
2701 CHESTNUT STREET
CHATTANOOGA, TN

37421

37403

DATE	TERMS	JOB NUMBER	
04/09/98	NET 30 DAYS	37187	.00
SHIP VIA	F.O.B.	FREIGHT TERMS	
BEST WAY	SHIPPING POINT	-----	.00

LINE	QUANTITY	UNIT	VENDOR ITEM NO	UNIT PRICE	AMOUNT
DATE DUE	CAT. NO	ITEM NUMBER			
0001	2	EA	5000107	1,606.00000	3,212.00
04/09/98	20	5000107	1 19190400 117000		
SCALES FOR SAND MULLERS					
0002	1	EA	5000107	1,100.00000	1,100.00
04/09/98	20	5000107	1 19190400 117000		
INSTALLATION OF PROGRAMMING OF SCALES					
0003	2	EA	5000107	155.75000	331.50
04/09/98	20	5000107	1 19190400 117000		
ANALOG CARD FOR SCALES					
CONFIRMATION: DO NOT DUPLICATE					
ATTN: D. URBANIAK REQ#3910					
PURCHASE ORDER NUMBER MUST APPEAR ON ALL PAPERWORK. PAYMENT CANNOT BE REMITTED FOR INVOICES WITHOUT PURCHASE ORDER NUMBER. IF A RELEASE NUMBER HAS BEEN ISSUED, THAT NUMBER MUST APPEAR ALONG WITH THE PURCHASE ORDER NUMBER. PGR					

INSTRUCTIONS: READ CAREFULLY

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4. OUR PURCHASE ORDER NUMBER MUST BE ON ALL PAPER WORK ATTENDANT TO THIS ORDER.

TOTAL

4,543.50

UNITED STATES PIPE AND FOUNDRY COMPANY, INC.

BY 12

SALES OR USE TAX
PERMIT NUMBERS

Direct Pay Permit Alabama
State No. 10
Jefferson County No. J.C. 10
Birmingham No. BHM 10

Direct Pay Permit Tennessee
Fittings Plant 2-133429804-003-8
Valve & Hydrant Plant 2-133429804-002-1

Direct Pay Permit New Jersey
DE-133-429-804/000

California: Invoice applicable taxes

ACCOUNTS PAYABLE

MWPS011588



UNITED STATES PIPE AND FOUNDRY COMPANY, INC.
PURCHASING DEPARTMENT

F102710598
PURCHASE ORDER

PAGE 1

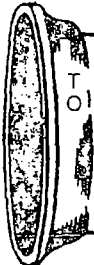
BLANKET RELEASE

BILL TO

UNITED STATES PIPE & FOUNDRY
ATTN: ACCOUNTS PAYABLE
P.O. BOX 10406
BIRMINGHAM, AL

CHANGE ORDER

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YOU ACCEPT THE TERMS AND CONDITIONS SET FORTH ON THE FACE SIDE AND THE REVERSE SIDE HEREOF, ANY DIFFERENT
OR ADDITIONAL TERMS IN YOUR ACCEPTANCE OF THIS OFFER ARE HEREBY OBJECTED TO.



ICR ENGINEERS INC
6139 PRESERVATION DR.
CHATTANOOGA, TN

SHIPPING TO
CHATTANOOGA FITTINGS PLANT
ATTN: STORE ROOM
2701 CHESTNUT STREET
CHATTANOOGA, TN

37416

37409

DATE	05/20/98	TERMS	NET 30 DAYS	JOB NUMBER	37187		.00
SHIP VIA	BEST WAY	F.O.B.	SHIPPING POINT	FREIGHT TERMS	-----		.00

LINE	QUANTITY	UNIT	VENDOR ITEM NO.	UNIT PRICE	AMOUNT
0001	1	LO	5000037	1,995.00000	1,995.00
	05/20/98	20	5000037	1 19190400 117000	
ENGINEERING SERVICE FOR MULLERS PER INV#98050					
CONFIRMATION: DO NOT DUPLICATE					
ATTN: D. URBANIAK REQ#2013					
PURCHASE ORDER NUMBER MUST APPEAR ON ALL PAPERWORK. PAYMENT CANNOT BE REMITTED FOR INVOICES WITHOUT PURCHASE ORDER NUMBER. IF A RELEASE NUMBER HAS BEEN ISSUED, THAT NUMBER MUST APPEAR ALONG WITH THE PURCHASE ORDER NUMBER. PGR					

INSTRUCTIONS: READ CAREFULLY

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4. OUR PURCHASE ORDER NUMBER MUST BE ON ALL PAPER WORK ATTENDANT TO THIS ORDER.

TOTAL 1,995.00

UNITED STATES PIPE AND FOUNDRY COMPANY, INC.

SALES OR USE TAX
PERMIT NUMBERS

Direct Pay Permit Alabama
State No. 10
Jefferson County No. JC 10
Birmingham No. BHM 10

Direct Pay Permit Tennessee
Fittings Plant 2-133429804-003-3
Valve & Hydrant Plant 2-133429804-002-1

BY 12
Direct Pay Permit New Jersey
DP-133-429-804/000

California: Invoice applicable taxes

ACCOUNTS PAYABLE

MWPS011589



UNITED STATES PIPE AND FOUNDRY COMPANY, INC.
PURCHASING DEPARTMENT

F73990398
PURCHASE ORDER

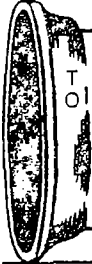
PAGE 1

BLANKET RELEASE

BILL TO UNITED STATES PIPE & FOUNDRY
ATTN: ACCOUNTS PAYABLE
P.O. BOX 10406
BIRMINGHAM, AL

CHANGE ORDER

PURCHASE ORDER NUMBER AND RELEASE NUMBER WHEN APPLICABLE MUST APPEAR ON ALL PAPERWORK.
BY SHIPPING THE GOODS LISTED BELOW OR BY ACKNOWLEDGING RECEIPT OF THIS ORDER, HEREAFTER CALLED "CONTRACT",
YOU ACCEPT THE TERMS AND CONDITIONS SET FORTH ON THE FACE SIDE AND THE REVERSE SIDE HEREOF, ANY DIFFERENT
OR ADDITIONAL TERMS IN YOUR ACCEPTANCE OF THIS OFFER ARE HEREBY OBJECTED TO.



35202

FURNESS-NEWSBURGE, INC
143 VIRGINIA AVE.

VERSAILLES, KY

SHIPP
CHATTANOOGA FITTINGS PLANT
ATTN: STORE ROOM
2701 CHESTNUT STREET
CHATTANOOGA, TN

40383

37408

DATE	04/07/98	TERMS	NET 30 DAYS	JOB NUMBER	.00
SHIP VIA	BEST WAY	F.O.B.	SHIPPING POINT	FREIGHT TERMS	.00

LINE	QUANTITY	UNIT	VENDOR ITEM NO.	UNIT PRICE	AMOUNT
DATE DUE	CAT. NO.	ITEM NUMBER			
0001	1	LO	5000107	10,000.00000	10,000.00
04/07/98	20	5000107	1 22210600 117000		
PROVIDE OZONE GENERATOR FOR WATER IN GREEN SAND SYS.					
CONFIRMATION: DO NOT DUPLICATE					
ATTN: D. URBANIAK REQ#3942					
PURCHASE ORDER NUMBER MUST APPEAR ON ALL PAPERWORK. PAYMENT CANNOT BE REMITTED FOR INVOICES WITHOUT PURCHASE ORDER NUMBER. IF A RELEASE NUMBER HAS BEEN ISSUED, THAT NUMBER MUST APPEAR ALONG WITH THE PURCHASE ORDER NUMBER. PGR					

INSTRUCTIONS: READ CAREFULLY

1. COPY OF BILL OF LADING, SHIPPING LIST, OR PACKING SLIP MUST BE MAILED TO ABOVE CONSIGNEE AT TIME OF SHIPMENT.
2. ALL PARCEL POST SHIPMENTS ARE TO BE INSURED.
3. RENDER SEPARATE INVOICE IN DUPLICATE FOR EACH SHIPMENT, INCLUDING ORIGINAL BILL OF LADING, OR EXPRESS RECEIPT.
4. OUR PURCHASE ORDER NUMBER MUST BE ON ALL PAPER WORK ATTENDANT TO THIS ORDER.

TOTAL 10,000.00

UNITED STATES PIPE AND FOUNDRY COMPANY, INC.

BY 12

SALES OR USE TAX
PERMIT NUMBERS

Direct Pay Permit: Alabama
State No. 10
Jefferson County No. J.C. 10
Birmingham No. BHM 10

Direct Pay Permit: Tennessee
Fittings Plant 2-133429804-003-8
Valve & Hydrant Plant 2-133429804-002-1

Direct Pay Permit: New Jersey
DP-133-429-804/000

California: Invoice applicable taxes

ACCOUNTS PAYABLE

MWPS011590

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3494
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2501 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400330-05C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Shell Molding Machine, Shalco Mod. DSM-3, SN 1504 & Cooling Exhaust System

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

470 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit
- ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit
Instal. Permit No. _____
- ☒ Certificate of Operation (Renewal)
Certificate of Operation No. 3321-30400301-47C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Cupola Bag House Dust Solidification

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

2,419 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Permit Fee _____ Hours Technical Research and Computer Time

Inspection Approval _____ Date Inspected: _____

Reviewed by Supervisor _____

Check Received, Amount _____ Check Number _____ Date _____

Updated on Computer _____

Registered in Suspense File _____

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-40202599-48C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Epoxy Coating - R. S. Valve

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

2,000 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

[Signature]
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____

Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3494
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2501 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400350-07C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Shell Sand Mold Pouring Bed

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

1,702 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

James H. Althoff
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3494
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2501 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30301001-09C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Lead Melting Furnace

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

5.8 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:

CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Permit Fee _____ Hours Technical Research and Computer Time

Inspection Approval Date Inspected: _____

Reviewed by Supervisor

Check Received. Amount _____ Check Number _____ Date _____

Updated on Computer

Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3494
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2501 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400499-10C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Core Oven, Steiner-Ives, SN 30655, Used to Heat Cure Oil
Sand Cores

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

100 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

John Shalhoop
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3494
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2501 CHESTNUT STREET, CHATTANOOGA, TN 37048
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400350-11C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Royer Green Sand Preparation System and Associated Baghouse
Pangborn No. 1000 Type CN

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

10,000 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

James D. Daulton
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3494
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-15C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☐ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: E010, E106

10. Equipment Name: Pangborn Type ES Rotoblast Monorail Machine & Pangborn
Rotoblast 8' Table Type LK 1

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☒ YES ☐ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

16,000 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: *Jana Hallwood*

Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

 Permit Fee Hours Technical Research and Computer Time

 Inspection Approval Date Inspected:

 Reviewed by Supervisor

 Check Received. Amount Check Number Date

 Updated on Computer

 Registered in Suspense File

SPECIAL CONDITIONS IMPOSED:

Expiration Date: Certificate of Operation No.:

Approved By:

Director

Date:

PROCESS EQUIPMENT APPLICATION

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): Pangborn Type ES Rotoblast
Monorail Machine & Pangborn Rotoblast 8' Table Type LK 1
3. Type of Process: shot-blast cleaning of castings
4. Major Raw Materials Processed: ductile iron castings

5. Date of installation, initial start-up, or alternation (such that potential emissions were increased) of equipment or device for which permit is applied for:

☐ Before January 1, 1973 - Schedule 1

☒ After January 1, 1973 - Schedule 2

6. Process Weight: 16,000 lbs/hr

(This is the total weight of all materials introduced into the process expressed in lbs/hr.)

7. Control Equipment Data:

A. ☐ Emissions Uncontrolled

B. ☒ Baghouse (File Form E102)

C. ☐ Wet Collecting Device (File Form E103)

D. ☐ Electrostatic Precipitator (File Form E104)

E. ☐ Inertial Separators (File Form E105)

F. ☐ Other - Specify _____

8. Control Equipment Efficiency for each pollutant emitted by this equipment (from appropriate Form E102, E103, E104, E105, E107 or enter zeros if A is checked in Item 7):

	% EFFICIENCY
Particulates	99
SO _x	
NO _x	
CO	
Hydrocarbons	
Other:	

9. Actual Particulate Emissions:

A. Uncontrolled Emissions: 236 lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{2.36} \text{ lbs/hr}$$

10. Actual Sulfur Oxide Emissions:

N/A Specify air required for process: _____ SCFM

A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}} \text{ lbs/hr}$$

11. Allowable Nitrogen Oxide Emissions:

N/A A. Nitric Acid Plants Emission Limitation (Allowable emissions will be in Item 7 on Form E101): _____ lbs/hr as NO₂

B. All other process equipment emission limitations: ☐ No Requirement

12. Nitrogen Oxide Emissions (lbs/hr as NO₂):

N/A A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)

B. Actual Emissions: _____ lbs/hr (Submit stack test report)

OR

Estimated Emissions:

$$\frac{(100\% - \text{Control Efficiency } (\%))}{100\%} \times \text{Uncontrolled Emissions} = \underline{\hspace{2cm}} \text{ lbs/hr}$$

13. Other Air Contaminant Emissions - Specify:

N/A

AIR CONTAMINANT

AMOUNT EMITTED (lbs/hr)

☐ The values shown were determined by actual stack test.
(Submit a copy of stack test with full details).

☐ The values shown were estimated.
(File Form E106 for each pollutant shown).

14. Those emissions indicated in Item 13 may at times under normal operating conditions cause (check one or more):

- ☐ Odors ☐ Eye Irritations
☐ Property Damage ☐ Other nuisances outside of plant property
☐ Health Effects ☒ No environmental damage

15. Emission Point Data:

Stack Height (emission point) above ground:	15	ft
Ground Elevation above sea level at stack base:	660	ft
Stack Diameter:	2.5	ft
Volume of gas discharged into atmosphere:	13,780	cfm
Gas exit temperature:	Ambient	OF

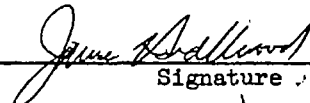
16. Average Equipment Operating Time:

A. Daily	8	hours
B. Weekly	5	days
C. Yearly	48	weeks

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official:


Signature

Title: Plant Engineer

Date: 11-5-90

NOTE: Equipment must also meet Visible Emission Code.

DO NOT WRITE BELOW THIS LINE

Information approved and entered on Permit Inspection Form (Engineer)

lbs/hr (allowable particulate emissions) PPM by volume as SO₂

UTM Coordinates of Company: EW NS

This form corresponds to permit number:

Special Notations:

POLLUTION ESTIMATION FORM

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY

2. Equipment Name (as shown on Line 10, Form E001): Pangborn Type ES Rotoblast Monorail Machine & Pangborn Rotoblast 8' Table Type LK 1

3. Type of pollutant for which estimation is made: Particulate

4. Pollutant Emission Factor (PEF): 29.5 Lbs/Ton
(Give value & units in lbs/ton, lbs/lbs, lbs/gal, gr/Ft³, etc.)
Source of Emission Factor: Measure of weight catch from similar process

5. Uncontrolled Pollution Emission Rate:
29.5 Lbs/Ton X 8 Tons/Hr = 236 Lbs/Hr
(PEF from Item 4) (Give operating rate for this equipment and the appropriate units in either lbs/hr, tons/hr, gal/hr, or CFM) (Give value & units)

6. Uncontrolled Pollution Emission Rate: 236 Lbs/Hr lbs emitted/hr
(from Item 5 convert to lbs/hr)

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: J. Bellard
Title: Plant Engineer
Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

Engineer Approval: _____

This form corresponds to permit number: _____

Special Notations: _____

**BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION ***

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3494-3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-16C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Pangborn 12' Rotoblast Table Type LK 1

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

8,700 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

James A. [Signature]
Signature

Title: Plant Engineer

Date: 11-5-90

DO NOT WRITE BELOW THIS LINE

____ Permit Fee _____ Hours Technical Research and Computer Time

____ Inspection Approval Date Inspected: _____

____ Reviewed by Supervisor

____ Check Received, Amount _____ Check Number _____ Date _____

____ Updated on Computer

____ Registered in Suspense File

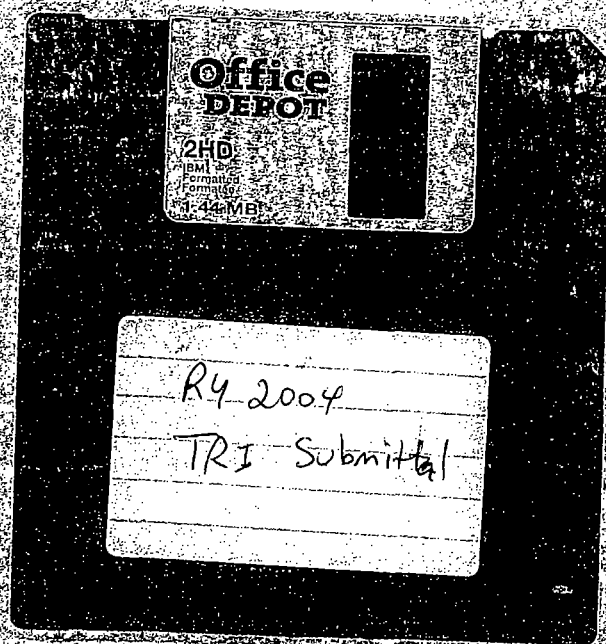
SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____



01000010001NNA2004	DAVID J. DIEDERICH	OPERATIONS MANAGER	20050608ADANNY JENNINGS	4237523912	NA	ANATES		NA
01000020001NNA2004	DAVID J. DIEDERICH	OPERATIONS MANAGER	20050608ADANNY JENNINGS	4237523912	MICHAEL A. LOVE	4237523829	NA	N150DIOXIN AND DIOXIN-LIKE COMPOUNDS NA YNNY
01000030001NNA2004	DAVID J. DIEDERICH	OPERATIONS MANAGER	20050608ADANNY JENNINGS	4237523912	MICHAEL A. LOVE	4237523829	NA	N420LEAD COMPOUNDS NA YNNYNNNNNNNNNN01
01000040001NNA2004	DAVID J. DIEDERICH	OPERATIONS MANAGER	20050608ADANNY JENNINGS	4237523912	MICHAEL A. LOVE	4237523829	NA	N450MANGANESE COMPOUNDS NA YNNYNNNNNNNN
01000060001NNA2004	DAVID J. DIEDERICH	OPERATIONS MANAGER	20050608ADANNY JENNINGS	4237523912	MICHAEL A. LOVE	4237523829	NA	108952PHENOL NA NNNNNNNNNNNNNN02 2867O
01000070001NNA2004	DAVID J. DIEDERICH	OPERATIONS MANAGER	20050608ADANNY JENNINGS	4237523912	MICHAEL A. LOVE	4237523829	NA	121448TRIETHYLAMINE NA NNNNNNNNNNNNNN03 6
01000080001NNA2004	DAVID J. DIEDERICH	OPERATIONS MANAGER	20050608ADANNY JENNINGS	4237523912	MICHAEL A. LOVE	4237523829	NA	N982ZINC COMPOUNDS NA YNNYNNNNNNNNNN02 2

MM/PS011614

MWP S011615

MWPS011616

2E+09
2E+09
2E+09
2E+09
2E+09
2E+09
2E+09

TRIO2

MWPS011617

3E+14
3E+14
3E+14
3E+14
3E+14
3E+14
3E+14

TRIO3

MWPS011618

0400001TND980316301
0400002TND980316301
0400003TND980316301
0400004TND980316301
0400006TND980316301
0400007TND980316301
0400008TND980316301

TRIO4

MWPS011619

0500001TN0002429
0500001TNR051749
0500002TN0002429
0500002TNR051749
0500003TN0002429
0500003TNR051749
0500004TN0002429
0500004TNR051749
0500006TN0002429
0500006TNR051749
0500007TN0002429
0500007TNR051749
0500008TN0002429
0500008TNR051749

TRIO5

MWPS011620

060000NA
060001TENNESSEE RIVER

TRIO6

MWPS011621

070000NA

070001MOCCASIN BEND SEWAGE TREATMENTPLANT 455 MOCCASIN BEND RD. CHATTANOOGA HAMILTON TN37405

TRI07

MWPS011622

080000NA NA

080001NA PORTER WARNER INDUSTIES 2 E. 38TH STREET CHATTANOOGA HAMILTON TN37410 N

080003TND000870295BUZZI UNICEM USA SIGNAL MTN. 1201 SUCK CREEK RD. CHATTANOOGA HAMILTON TN37405 N

TRI08

MMPS011623

9E+09	
09000030001	5M NA
09000040001	5O NA
09000060001	51O 10000
9E+09	
09000080001	152M 10000

TRIO9

MWPS011624

1000002NA
1000003NA
1000004NA
1000006NA
1000007NA
1000008NA

TRI10

MWPS011625

1.1E+10
1.1E+10
1.1E+10
1.1E+10
1.1E+10
1.1E+10

TRI11

MWPS011626

12000020000NA	
12000030003	21O M26
12000030003NA	
12000040003	218O M26
12000040003NA	
12000060003	200O M26
12000060003NA	
12000070001	192O M26
12000070001NA	
12000080003	145O M26
12000080003NA	

1300002A A06NA	0500000N
1300002S G09NA	0500000N
1300003A A06NA	0309900N
1300003S G09NA	0200000N
1300004A A06NA	0309900N
1300004S G09NA	0200000N
1300006NA	
1300007A A03NA	0209900N
1300008A A06NA	0209900N
1300008S G09NA	0100000N

14000137401SPPFN25012U.S. PIPE & FOUNDRY CO., CHATT. V&F 2501 CHESTNUT ST. CHATTANOOGA HAMILTON TN37408 30WALTER INDUSTRIES, INC. 183823111NA

MWPS011629

TRI14

1500002NA
1500003NA
1500004NA
1500006NA
1500007NA
1500008NA

TRI15

MWPS011630

1600002NA
1600003NA
1600004NA
1600006NA
1600007NA
1600008NA

TRI16

MWPS011631

1700002Y

TRI17

MWPS011632

TR00001000072004EPA/SAIC TRI-ME RY2004 5.4.14 TRI SOFTWARE SUPPORT 8774704830 TRIME@SAIC.COM

TRITR

MMPS011633

TECHNICAL LABORATORIES, INC.

515 CHEROKEE BLVD.

MARTIN H. DAVIS
President

CHATTANOOGA, TENNESSEE 37405

615/265-4533

March 3, 1987

U. S. Pipe and Foundry Company
P. O. Box 311
Chattanooga, Tennessee 37401

Gentlemen:

Attention: Mr. Dennis Urbaniak

Re: Baghouse Bag Received February 24, 1987

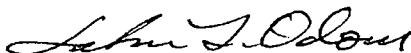
We have examined the submitted bag both visually and microscopically in an effort to determine the cause of the reported high back pressure experienced just before the bags were removed from service.

Our examination showed that the bag has been subject to condensation of liquid which actually ran down the bags. Associated with these areas of condensation there is a amber colored brittle resin. This material when burned produces a phenolic odor. Microscopic examination shows that the dust, sand and smoke particles are held together with this same amber substance which extends between the fibers of the fabric.

We believe that the failure was caused by operating the baghouse with inlet air whose humidity was high enough to condense at baghouse temperatures. Once condensation occurred, a liquid phase polymerization of the phenols and other organic materials took place. We suspect that the failure happened during a time of very low ambient temperatures.

We will hold the bag for further instructions.

Sincerely,



John L. Odom
Senior Chemist

Approved by:

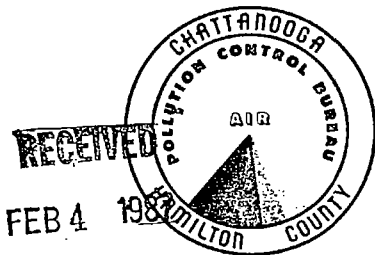


Martin H. Davis

wpf

Laboratory No. 252,695

MWPS011634



RECEIVED

FEB 4 1987

Plant Engineering

AIR POLLUTION CONTROL BUREAU

3511 ROSSVILLE BLVD. CHATTANOOGA, TN. 37407 PH. (615) 867-4321

February 2, 1987

Mr. Jim Smallwood
U.S. Pipe & Foundry Company
2701 Chestnut Street
Chattanooga, Tennessee 37408

ENVIRONMENTAL SERVICE

FEB - 4 1987

Dear Mr. Smallwood:

U.S. Pipe & Foundry is required to perform testing of the positive pressure baghouse for this source (Permit No. 3321-30400301-391). This testing is to determine compliance with all applicable emission limitations, in accordance with EPA Method 5-D. This test should be completed within 180 days after issuance of the temporary operating permit, which began January 21, 1987.

We ask that you schedule a pre-test meeting at least 10 days prior to your testing date.

Sincerely,

Ann Keith

Ann Keith
Engineer

AK/pl

Ductile Iron treating

75,000

PART I. FACILITY IDENTIFICATION INFORMATION (FORM R)DOCUMENT CONTROL NUMBER: 1300145147740**Section 1. Reporting Year**Reporting Year: 2000**Section 2. Trade Secret Information****2.1 Trade Secret:** NO**2.2 Sanitized Copy:** Unsanitized**Section 3. Certification**

<u>CERTIFYING OFFICIAL'S NAME</u>	<u>CERTIFYING OFFICIAL'S TITLE</u>	<u>CERTIFYING OFFICIAL'S SIGNATURE</u>	<u>DATE SIGNED</u>
DAVID DIEDERICH	PLT. MGR.	Original	03-JUL-01

Section 4. Facility IdentificationTRI Facility ID: 37401SPPFN25012**4.1 Facility Name and Address.**Facility Information

<u>NAME</u>	<u>STREET</u>	<u>CITY</u>	<u>COUNTY</u>	<u>STATE</u>	<u>ZIP CODE</u>
U.S. PIPE & FNDY. CO. CHATTANOOGA VALVE & FITTINGS	2501-2701 CHESTNUT ST.	CHATTANOOGA	HAMILTON	TN	37408

Mailing Information

<u>NAME</u>	<u>STREET</u>	<u>CITY</u>	<u>COUNTY</u>	<u>STATE</u>	<u>ZIP CODE</u>
U.S. PIPE & FNDY. CO., CHATTANOOGA VALVE & FITTINGS	P.O. BOX 311	CHATTANOOGA		TN	37401- 0311

<u>PROVINCE</u>	<u>COUNTRY (NON - US)</u>
NO DATA	NO DATA

4.2 Facility Classification

--	--	--	--

ENTIRE FACILITY	PARTIAL FACILITY	FEDERAL FACILITY	GOCO FACILITY
YES	NO	NO	No Data

4.3 Technical Contact

Not Available to the Public as this information is only for Intranet.

4.4 Public Contact

NAME	PHONE
MICHAEL A. LOVE	4237523829

4.5 SIC Codes

SIC CODE	SIC CODE DESCRIPTION
3321	GRAY AND DUCTILE IRON FOUNDRIES

4.6 Location

LATITUDE	LONGITUDE
035-01-30	085-12-30

4.7 Dun & Bradstreet Numbers

DUNS NUMBER
004017851

4.8 RCRA ID Numbers

RCRA ID NUMBER
TN980316301

4.9 NPDES Permit Numbers

NPDES PERMIT NUMBER
NA

4.10 Underground Injection Well Code (UIC) ID Number

UIC ID NUMBER
NO DATA

5 Parent Company InformationParent Company Name: WALTER IND. INC.Parent Company DUNS Number: 183823111**PART II. CHEMICAL - SPECIFIC INFORMATION**DOCUMENT CONTROL NUMBER: 1300145147740**Section 1. Toxic Chemical Identity****1.1** CAS Number: N450**1.2** Toxic Chemical or Chemical Category Name: MANGANESE COMPOUNDS**1.3** Generic Chemical Name: NA**1.4** Distribution of Each Member of the Dioxin and Dioxin like Compounds Category

NA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
YES																	

Section 2. Mixture Component Identity**2.1** Supplier Provided Generic Chemical Name: NA**Section 3. Activities and Uses of the Toxic Chemical****3.1** Manufacture the Toxic Chemical:Produce: YES Import: NO On-Site Use/Processing: NOSale/Distribution: NO Byproduct: YES Impurity: NO**3.2** Process the Toxic Chemical:Reactant: NO Formulation Component: NO Article Component: NO Repackaging: NO Impurity: NO**3.3** Otherwise Use the Toxic Chemical:Chemical Processing Aid: NO Manufacturing Aid: NO Ancillary or Other Use: NO**Section 4. Maximum Amount of the Toxic Chemical Onsite During the Calendar Year**Maximum Chemical Amount: 100 - 999 pounds**Section 5. Quantity of the Toxic Chemical Entering each Environmental Medium Onsite**http://oaspub.epa.gov/enviro/tri_formr_partone.get_thisone?rpt_year=2000&dcn_num=130 10/14/2002

5.1 Fugitive or Non-Point Air Emissions

NA	TOTAL RELEASE (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE
NO	500 - 999	Pounds	O - OTHER APPROACHES

5.2 Stack or Point Air Emissions

NA	TOTAL RELEASE (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE
NO	500 - 999	Pounds	O - OTHER APPROACHES

5.3 Discharges to Receiving Streams or Water Bodies

STREAM/WATER BODY NAME	TOTAL RELEASE (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE	% FROM STORMWATER
NA				

5.4.1 Underground Injection Onsite to Class I Wells.

NA	TOTAL RELEASE (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE
YES			

5.4.2 Underground Injection Onsite to Class II-V Wells.

NA	TOTAL RELEASE (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE
YES			

5.5 Disposal to Land Onsite

5.5.1A RCRA Subtitle C Landfills

NA	TOTAL RELEASE (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE
YES			

5.5.1B Other Landfills

NA	TOTAL RELEASE (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE
NO	110200	Pounds	O - OTHER APPROACHES

5.5.2 Land Treatment/Application Farming

NA	TOTAL RELEASE (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE
YES			

5.5.3 Surface Impoundment

NA	TOTAL RELEASE (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE
YES			

5.5.4 Other Disposal

NA	TOTAL RELEASE (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE
YES			

Section 6. Transfers of the Toxic Chemical in Wastes to Off-Site Locations

6.1 Discharges to Publicly Owned Treatment Works (POTWs)

6.1.A Total Quantity Transferred to POTWs and Basis of Estimate

6.1.A.	TOTAL TRANSFERS (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE
1	NO DATA		NO DATA

6.1.B POTW Locations

6.1.B.	POTW NAME	ADDRESS	CITY	STATE	COUNTY	ZIP CODE
1	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA

6.2 Transfers to other Off-Site Locations

RCRA Number: Parent Company Controlled:

Name: Address:

City: State:

County: Zip Code:

Country Code (Non - US): Province:

TOTAL TRANSFERS (per year)	UNIT OF MEASURE	BASIS OF ESTIMATE	WASTE MANAGEMENT TYPE
NO DATA		NO DATA	NO DATA

Section 7A. On-Site Waste Treatment Methods and Efficiency

7A.1a. Waste Stream: GASEOUS

7A.1b.	WASTE TREATMENT METHOD(S) SEQUENCE
1	A07 - OTHER AIR EMISSION TREATMENT
2	G01 - CEMENT PROCESSES (INCLUDING SILICATES)

7A.1c. Range of Influent Concentration: 100 PPM TO 1 PERCENT

7A.1d. Waste Treatment Efficiency Estimate: 99

7A.1e. Based on Operating Data?: NO

Section 7B. On-Site Energy Recovery Processes

ON SITE ENERGY RECOVERY PROCESSES
NA

Section 7C. On-Site Recycling Processes

ON SITE RECYCLING PROCESSES
NA

Section 8. Source Reduction and Recycling Activities

SECTION	TYPE OF QUANTITY	UNITS	PRIOR YEAR	CURRENT REPORTING YEAR	FOLLOWING YEAR	SECOND FOLLOWING YEAR
8.1	Quantity Released		NA	NA	NA	NA
8.2	Quantity Used for Energy Recovery Onsite		NA	NA	NA	NA
8.3	Quantity Used for Energy Recovery Offsite		NA	NA	NA	NA
8.4	Quantity Recycled Onsite		NA	NA	NA	NA
8.5	Quantity Recycled Offsite		NA	NA	NA	NA
8.6	Quantity Treated Onsite	Pounds	89450	110200	135546	166721
8.7	Quantity Treated Offsite		NA	NA	NA	NA

8.8 One-Time Event Release:

8.9 Production Ratio: 1.23

8.10 Source Reduction Activities

http://oaspub.epa.gov/enviro/tri_formr_partone.get_thisone?rpt_year=2000&dcn_num=130 10/14/2002

NA			
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8.11 Additional Data Indicator: NO

[EPA Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

Last updated on Monday, October 14th, 2002
http://oaspub.epa.gov/enviro/tri_formr_partone.get_thisone

THE CHATTANOOGA-HAMILTON COUNTY AIR POLLUTION CONTROL BUREAU

In the Matter of:

UNITED STATES PIPE AND FOUNDRY
COMPANY, INC.

DOCKET NO. 798

NOTICE OF VIOLATION

*Copy
Rec'd on 11-9-98*

To: United States Pipe and Foundry Company, Inc.
2701 Chestnut Street
Chattanooga, TN 37408

Serve: Wayne Berry, Plant Manager

It appearing that you are in violation of the Chattanooga Air Pollution Control Ordinance
(the "Ordinance") in that:

On or about the following dates and times, and continuing thereafter until October 9, 1998,
UNITED STATES PIPE AND FOUNDRY COMPANY, INC. did cause, suffer, allow or permit
violation of the following Special Conditions on the following Certificates of Operation requiring
submittal of written reports to the Bureau Director annually by the dates specified therein:

Certificate of Operation No.	Condition No.	Report Submittal Deadline
3321-40200101-12C	4	8/11/98
3321-40200101-13C	5	8/11/98
3321-30400398-32C	1	8/11/98
3321-30400398-33C	1	8/11/98
3321-40200101-36C	4	8/11/98
3321-40200101-37C	4	8/11/98
3321-30400301-40C	5 and 7	8/11/98
3321-40200801-42C	4	8/11/98
3321-40200101-43C	4	8/11/98
3321-30400350-44C	4	8/11/98
3321-30400358-46C	3	8/11/98
3321-40200101-51C	4	8/11/98
3321-40200101-54C	4	7/25/98
3321-30400371-55C	4	7/25/98
3321-30400371-56C	4 and 6	7/25/98
3321-40222601-57C	2	7/25/98

NOW, THEREFORE, you are required to appear before the Director and the Chattanooga-Hamilton County Air Pollution Control Board within ten (10) days after receipt of this Notice of Violation.

ISSUED this 2nd day of November, 1998.

THE CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU

By: Robert H. Colby
Robert H. Colby
Director

DOCKET NO. 798
NOTICE OF VIOLATION AND DIRECTOR'S ORDER

State of Tennessee)
County of Hamilton)

To any Lawful Officer to Execute and Return:

SUMMON: United States Pipe and Foundry Company, Inc.
 3701 Chestnut Street
 Chattanooga, TN 37401

SERVE: Wayne Berry, Plant Manager

and make known to same that he is strictly ordered by the Director of the Bureau, by the authority vested in the Director under the law, to take the action designated herein under the Director's Order herewith attached.

Herein fail not and upon completion of service hereof return this order.

Witness this _____ day of _____, 199_____.

Robert H. Colby, Director
Chattanooga-Hamilton County
Air Pollution Control Bureau

OFFICER'S RETURN

Came into my hand this _____ day of _____, 199_____, and executed by
delivery and service of a copy of this order to:

and ordering same as commanded.

This _____ day of _____, 199_____.

Officer



UNITED STATES PIPE AND FOUNDRY COMPANY

Chattanooga Valve & Fittings Plant
P.O. Drawer 311
CHATTANOOGA, TENNESSEE 37401

September 21, 1998

Jay Ware
Chattanooga-Hamilton County
Air Pollution Control Bureau
3511 Rossville Blvd.
Chattanooga, TN 37407

Dear Jay:

The following information is provided in accordance with permit special conditions:

Permits -12, -13, -36, -37, -42, -43, -51, & -52

The Paint Summary will follow as a separate submission.

Permits -32 & -33

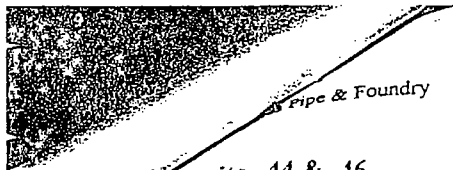
Core Chemical	Borden Designation	Usage (lbs)
Pepset Binder	324	154,395
Airset/#10 Binder	975	702,000
Pepset Acid	BC-61	73,225
Airset/#10 Acid	BC-61	332,935

Permit -40

Readings on the operating hour meters for the combustion air blowers at the cupola are as according to the following table:

	North	South
17Sep 98	36,625	36,497
7Aug 97	34,426	34,185
Hours of Operation	2,199	2,312
Total Hours	4,511	

The total amount of coke used from July 97 through June 98 was 8,385 tons.
The maximum sulfur content in the coke burned was 0.7%.



September 21, 1998

Page 2

Readings on the operating hour meters for the Sand Reclaimer baghouse (-44) and the Screening Drum cyclone (-46) are as according to the following table:

	-44	-46
10Sep 98	2788	12,722
7Aug 97	<u>2215</u>	<u>9978</u>
Hours of Operation	573	2744

Permits -54, -55, -56

	Total	-54	-55	-56
Part 1	207,740	62,322	62,322	83,096
Part 2	207,080	62,124	62,124	82,832
TEA	22,400	6,720	6,720	8,960

Permit -57

Following is a list of refractory materials and the quantity of each used in the period from July 97 through June 98. We started using the Prolite products around January 98. Enclosed are the MSDSs for these products and another Prolite product that we have begun using since June 98.

Material	Usage (lbs)
Arco-Lite 4416	79,000
Dura-Therm 4117	23,760
Prolite AB	46,200
Prolite TSBC	33,012
Alcohol	57,470

As far as I can tell this is all the information required by special conditions for our permits. If I have omitted any required information, do not hesitate to call me at 752-3912.

Very truly yours,

Dennis Urbaniak
Project Engineer

cc: John Pleasant

MWPS011647

PAINT SUMMARY

Jul 97 - Jun 98

Permit #	Asphalt B-523	Other (See Notes)	Mineral Spirits	Other Solvent
12	2,500		550	
13	3,500	1,075 ²	800	550
36	9,000		4,000	
37	2,500		280	
42		547 ³		300
43	6,451		2,840	
51		1,320 ¹	100	
52	1,000		120	
TOTALS	24,951	2,942	8,690	850

NOTES:

1 Paint in Cleaning Shed
1320 gallons of Eagle Bridges primer

2 Colored Paints @ Hydrant Assembly
Rustoleum Colors (all 76 series)

Green	32
Red	319
Black	158
White	22
Orange	92
Yellow	240
Blue	5

Indurall Aluminum 175

Silathane 32
1075

3 Various paints @ special coatings
in Shipping Department

TNEMEC Paints

20-x	20
37-x	160
66-x	88
69-x	60
140-x	204

Indurall PE-54 15
547

Dennis Urban

**UNITED STATES PIPE AND FOUNDRY COMPANY**

GENERAL OFFICE

3300 FIRST AVENUE NORTH • BIRMINGHAM, ALABAMA 35202

February 13, 1987

Ms. Ann Keith, Engineer
Chattanooga-Hamilton County Air Pollution Control Bureau
3511 Rossville Blvd.
Chattanooga, TN 37407

Subject: Permit No. 3321-30400301-391
Source Testing

Dear Ms. Keith:

By copy of this letter to Mr. Wayne Cropp, Director of the Chattanooga-Hamilton County Air Pollution Control Bureau (Bureau), United States Pipe and Foundry Company is informing you of its request from Mr. Cropp of a waiver regarding the performance of particulate testing for the positive pressure baghouse referred to in your letter of February 2, 1987. The basis on which this request is being made is discussed below.

Summarizing the Chattanooga Air Pollution Control Ordinance in regard to the performance of compliance testing, the following are reasons the Director may require that tests be performed under Section 4-6-(A)(12):

- (1) The emission control device does not meet the air pollution standards.
- (2) The type of control device is anticipated not to be sufficient to meet the requirements of the ordinance.
- (3) The projected construction or alteration will interfere with attainment of maintenance of ambient air quality.

The Director, however, may, under Section 4-6-(B)(2), waive the requirements of emission testing if, in his opinion, it is justified.

U. S. Pipe feels that the waiving of test requirements for this emission source can be justified based upon the following:

(1) It was my understanding, after submitting to the Bureau on September 11, 1986 my letter regarding final compliance, that the compliance of this unit would be determined by visible emission evaluations. On September 15 and 16, Bureau personnel made these evaluations and determined the unit to be in compliance, as was also indicated in the Board order issued on December 1, 1986. Why is additional testing now being required?

(2) Since September 16, 1986, to my knowledge, there has been no problem of violations of air pollution regulations by this control device.

(3) A scientifically based and accepted method for evaluating emission sources such as baghouses exists. This is EPA Method 9 (visible emission evaluation). I contend that this is sufficient to evaluate compliance considering the source to be the most effective type of pollution control available to industry and this particular process.

(4) U. S. Pipe has tested many negative - pressure baghouses over the course of the years. Much of this data has been submitted to you. Unless there is a mechanical problem, i. e., bag breakage, structural damage, etc., emissions from these sources are very small, on the order of .002 gr./dscf. or ten times less than the regulatory requirements. When structural deficiencies or broken bags are involved in these type of emission controls, visible emissions are readily noticeable and readable and provide an obvious tool for enforcement.

(5) To comply with Method 5D as referred to in your letter, U. S. Pipe is faced with a large capital expenditure to modify the existing baghouse to be leak tight and to install the necessary structural supports, catwalks, etc., for performing this test. Also, the multiple site testing required causes the equipment to have to be moved frequently. This will greatly increase the cost of each individual test run.

(6) Since the particulate being captured in this case is magnesium oxide, sand and fume, we believe that you will concur with us that the baghouse is the most reasonable approach to solving this air pollution problem.

(7) In our view this source, being at most 75,000 cfm, is a small source and does not justify the significant amount of expense required to get a one time mass emission loading using a method that, in our opinion, is at best only approximate due to the many sources of error in applying this method to our particular type of pressure baghouse.

Ms. Ann Keith

- 3 -

February 13, 1987

We appreciate your consideration of the above in regard to needlessly spending money to perform unnecessary testing where regulations or test methods are already in place that are sufficient for determining compliance or non-compliance of this type of emission control device. Please contact me at 205 254-7435 regarding any questions.

Sincerely,



John F. Pleasant

Senior Environmental Engineer

JFP/js

cc: Mr. Wayne Cropp

bc: Mr. W. E. Fleck
Mr. C. N. Coddling
Mr. D. C. Wallace
Mr. W. A. Berry
Mr. J. Smallwood
Mr. H. G. Reynolds



U.S. Environmental Protection Agency

TRI Explorer

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Releases: Facility Report

EPA Office of Environmental Information

[See Note](#)

TRI On-site and Off-site Reported Releases (in pounds), for facilities in All Industries, for All Chemicals, zip code 37408 in Tennessee, 2000

Row #	Facility	TRIF ID	Fugitive Air	Stack Air	Total Air Emissions	Total On-site Releases	Total Off-site Releases	Total On- and Off-site Releases
1	NORTH AMERICAN ROYALTIES INC. WHELAND FNDY. DIV., 2800 S. BROAD ST., CHATTANOOGA	37343VHLLND2800S	11,088	70,017	81,105	81,112	827,009	908,121
	1,2,4-Trimethylbenzene		307	310	617	617	226	843
	Barium compounds		17	30	47	47	7,865	7,912
	Certain glycol ethers		46		48	48	31,586	31,634
	Chromium compounds		12	18	30	30	5,462	5,492
	Copper		30	49	79	79	6,704	6,783
	Diisocyanates (list 1995)		134	164	298	298	2,204	2,502
	Dioxin and Dioxin-like compounds (list 2000, threshold 0.1 grams)		**	**	**	**	**	**
	Lead compounds		210	420	630	630	42,443	43,073
	Manganese compounds		460	760	1,220	1,222	260,838	262,060
	N-Methyl-2-pyrrolidone (list 1995)		73		77	77	24,291	24,368
	Naphthalene		395	853	1,248	1,248	483	1,731
	Nickel		4		11	11	1,247	1,258
	Phenol		1,400	13,000	14,400	14,400	308	14,708
	Triethylamine (list 1995)		5,600	50,000	55,600	55,600		55,600
	Zinc compounds		2,400	4,400	6,800	6,805	443,352	450,157
2	TAYLOR LABS. INC., 3001 S. BROAD ST., CHATTANOOGA	37408TYLRL3001S	250		250	250		250
	Certain glycol ethers		250		250	250		250
	Diethanolamine		NA	NA	NA	NA	NA	NA
	Sodium nitrite (list 1995)		NA	NA	NA	NA	NA	NA
3	U.S. PIPE & FNDY. CO. CHATTANOOGA VALVE & FITTINGS, 2501-2701 CHESTNUT ST., CHATTANOOGA	37401SPPFN25012	50,823	1,750	52,573	265,533		265,533
	Dioxin and Dioxin-like compounds (list 2000, threshold 0.1 grams)			**	**	**		**
	Lead compounds		5	250	255	2,095		2,095
	Manganese compounds		750	750	1,500	111,700		111,700
	Methanol		32,251		32,251	32,251		32,251
	Phenol		17,067		17,067	17,965		17,965
	Zinc compounds		750	750	1,500	101,522		101,522
	Total	24	62,161	71,767	133,928	346,895	827,009	1,173,904

(Note that if a facility name appears multiple times within each of the below tables, the facility is a multi-establishment and submitted multiple forms for Dioxin and Dioxin-like compounds.

Note that in the table above, asterisks are shown to indicate that data for Dioxin and Dioxin-like compounds in grams (as required by EPA) was reported by the facility. EPA has converted these data into pounds and included them in the table total (in pounds). Please refer to the Dioxin and Dioxin-like compounds table below for reported amounts of Dioxin and Dioxin-

like compounds in grams. Grams can be converted to pounds by multiplying by 0.002205.)

TRI On-site and Off-site Reported Releases of Dioxin and Dioxin-like Compounds (in grams), zip code 37408 in Tennessee, 2000

Row #	Facility	TRIF ID	Fugitive Air	Stack Air	Total Air Emissions	Total On-site Releases	Total Off-site Releases	Total On- and Off-site Releases
1	NORTH AMERICAN ROYALTIES INC. WHELAND FNDY. DIV., 2800 S. BROAD ST., CHATTANOOGA	37343WHLND2800S	0.0050000	0.1000000	0.1050000	0.1050000	9.8000000	9.9050000
2	U.S. PIPE & FNDY. CO. CHATTANOOGA VALVE & FITTINGS, 2501-2701 CHESTNUT ST., CHATTANOOGA	37401SPPFN25012		0.6500000	0.6500000	2.1600000		2.1600000
Total			0.0050000	0.7500000	0.7550000	2.2650000	9.8000000	12.0650000

Distribution of Each member of the Dioxin and Dioxin-like Compounds Category (as a percentage), zip code 37408 in Tennessee, 2000

Row #	Facility	NA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	NORTH AMERICAN ROYALTIES INC. WHELAND FNDY. DIV., 2800 S. BROAD ST., CHATTANOOGA																		
2	U.S. PIPE & FNDY. CO. CHATTANOOGA VALVE & FITTINGS, 2501-2701 CHESTNUT ST., CHATTANOOGA		6.95	0.83	7.75	6.84	4.79	1.37	0.70	1.40	1.25	5.00	0.89	5.00	14.81	10.72	2.28	28.50	0.92

Number	CAS No.	Chemical
NA		There is no speciation data available
1	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran
2	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran
3	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran
4	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran
5	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran
6	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran
7	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
8	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
9	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
10	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
11	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran
12	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin
13	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran
14	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran
15	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
16	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran
17	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin

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Create comma-separated values, compatible with spreadsheet and databases.

http://www.epa.gov/cgi-bin/broker?zipcode=37408&_service=oiaa&_program=xp_tri.sasm 10/14/2002

MWPS011653

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View other report type:

- ☐ Transfers Off-site for Further Waste Management; or
- ☐ Quantities of TRI Chemicals in Waste (waste management)

Note: Reporting year (RY) 2000 is the most recent TRI data available. Facilities reporting to TRI were required to submit RY 2000 data to EPA by July 2001. TRI Explorer is using a "frozen" data set that includes revisions submitted to EPA as of January 23, 2002 for the years 1988 to 2000 (i.e., revisions submitted to EPA after this time are not reflected in TRI Explorer reports). Please access [EPA Envirofacts](#) to view TRI data with the most recent revisions.

On-site releases are from Section 5 of the Form R. Off-site releases are from Section 6 (transfers off-site to disposal) of the Form R. Off-site releases include metals and metal compounds transferred off-site for solidification/stabilization and for waste water treatment, including to POTWs.

A decimal point, or ".", denotes that the facility left that particular cell blank in its Form R submission (a zero in a cell denotes either that the facility reported "0" or "NA" in its Form R submission). "NA" in a cell denotes that the facility has submitted only Form A and thus the data for release, waste transfers or quantities of TRI chemicals in waste are not applicable. By submitting a Form A the facility has certified that its total annual reportable amount is less than 500 pounds, and that the facility does not manufacture, process, or otherwise use more than 1 million pounds of the toxic chemical.

The facility may have reported multiple SIC codes to TRI in the current reporting year. See the facility profile report by clicking on the facility name to see a list of all SIC codes submitted to TRI for the current reporting year.

Users of TRI information should be aware that TRI data reflect releases and other waste management of chemicals, not exposure of the public to those chemicals. Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from release and other waste management activities that involve toxic chemicals.

Release:

October 14, 2002

Facility Report

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FILE

UNITED STATES PIPE AND FOUNDRY COMPANY

April 12, 1978

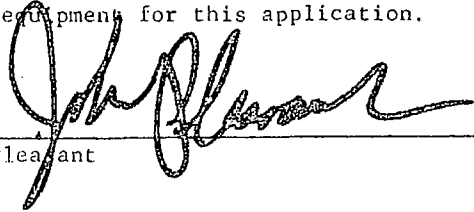
TO: J. Smallwood' ADDRESS: Chattanooga V & F
FROM: J. Pleasant ADDRESS: General Office
SUBJECT: #9 UNIT SHAKE-OUT CONTROL
COPIES TO: Mr. H. R. Sanders

On Tuesday, April 4, 1978, during a meeting with Mr. H. Parr of the Chattanooga Hamilton County Air Pollution Control Bureau, regarding some problems at the Soil Pipe; the subject of shake-out controls was discussed. I was reminded of the fact that the Wheland Company has in the past few weeks made public their intention to install a new larger shake-out unit to replace an older one. Mr. M. Poe of the Bureau told me that upon submittal of their request for a permit to construct, that the Environmental Protection Agency (EPA) took a close look at this permit, due to the fact that it was a new source in a non-attainment area and would require Best Available Control Technology (BACT). The permit actually went all the way to Research Triangle Park (EPA'S research center) for evaluation. Mr. Poe said that he expects to receive a letter soon from EPA requesting that Wheland be required to install a 30" pressure drop wet scrubber. This letter will also take the position that EPA is considering this to be BACT, for this type of source. This information will have a direct bearing on our selection of equipment for the #9 unit.

Contact had been made with Western Precipitator Company asking for information regarding the availability of their pilot test unit. This is a wet scrubber type unit, which will allow for evaluation of various pressure drops, to determine the size of unit most suitable to our application. An estimate of the cost for this test is shown below.

Minimum equipment rental-----	\$1,000.00
Freight-----	\$2,000.00
Engineer per diam, (two days minimum)-----	\$ 620.00
Travel-----	\$ 350.00
<u>Plant set-up cost-----</u>	<u>\$ 500.00</u>
Total-----	\$4,470.00

This is probably a minimum amount required for making this test. However, it is my suggestion that serious consideration be given to testing this unit or possibly another one like it, in order to help us accurately select the proper piece of equipment for this application.


J. Pleasant

JP/sd

MWPS011655

Summary: #9 Unit Air Pollution Control

From 1965 to May, 1975, a Schmeible wet scrubber controlled shake-out, sand handling and storage and miller emissions from the #9 Fittings unit. In May of 1975 a court order initiated by the Chattanooga-Hamilton County Air Pollution Control Bureau forced removal of this unit from service for not meeting opacity regulations. Since the physical condition of the unit was not good, ~~the~~ repairs were out of the question. Also, a low energy unit of this type could not eliminate a smoke problem anyway. It was decided to add the necessary ductwork and take the emissions to the ductile baghouse. This change was approved and permitted in June of 1976. Due to the high moisture content in the gasses the ductwork soon plugged with dust buildup. Since that time the #9 unit has been disconnected from any pollution device and as such the emissions have been released into and confined inside the building resulting in employee complaints. The removal of the #9 unit from a pollution control device has also resulted in its removal from the emissions source list which means that the only permissible reason for the installation of a new control device, without tradeoff emission reductions being required, is for meeting Occupational Safety & Health Administration requirements.

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401-0311
Street City State Zip Code
6. Company Address
(if different from line 5): 2501 CHESTNUT STREET, CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- ☐ Installation Permit ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☒ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. 3321-30400340-17C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☒ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Grinding Booths in #2 Cleaning Shed (South)

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr. (Item 6 on Form E010), Incineration Rate, lbs/hr. (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr. (Item 7C on Form E011):

6.650 Lb/Hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407-2495

Company Official: James R. Hallmark

Signature

Title: Plant Engineer

Date: 11-15-91

DO NOT WRITE BELOW THIS LINE

\$ 140.5 Permit Fee N/A Hours Technical Research and Computer Time

WCM Inspection Approval Date Inspected: March 16, 1992

SCS Reviewed by Supervisor

JWP Check Received. Amount \$ 140.00 Check Number 1725658 Date 4/22/92

JWP Updated on Computer

Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: See attached special conditions.

Expiration Date: Jan. 11, 1993

Certificate of Operation No.: 3321-30400340-17C

Approved By: Robert M. Kelly

Director

Date: JUNE 3, 1992

UNITED STATES PIPE AND FOUNDRY COMPANY

September 19, 1977

FILE

TO: Mr. R. C. Hartman ADDRESS: Chattanooga V & F
FROM: H. R. Sanders ADDRESS: General Office
SUBJECT: AIR EMISSION CONTROLS - NO. 9 LINE AND DUCTILE TREATING
COPIES TO: Messrs. D. R. Wedell, W. Berry, J. Smallwood

This letter is to confirm discussions held at your office on September 16, 1977, for the purpose of discussing the above subject. Persons attending were Messrs. R. C. Hartman, W. Berry, J. Smallwood, D. C. Wallace and H. R. Sanders.

A new AFE will be prepared covering replacement of the plenum and hooding serving the No. 9 shake-out area. It is necessary that funds be approved and plans completed for this project so that the necessary work may be completed during the Christmas shutdown. A separate paper covering the required control equipment to control emissions from the No. 9 shake-out will be prepared when a determination as to the type collector to be used has been made.


Further evaluation of potential control systems is planned. At present, it has been determined that the use of wet electrostatic precipitators is impractical due to the extremely high costs of such units. A high efficiency fabric collector (Kermatrol) may offer a viable solution to control of smoke and particulate matter emitted from the process. It is desirable that a Kermatrol pilot unit be tested prior to accepting this method of control as it has never been applied to this particular process before. This unit is favored over a wet scrubber due to the concern over water problems which will be associated with any scrubber that might be used for this purpose. Mr. Smallwood will be responsible for the necessary contacts with Kermatrol.

Due to the particular configuration of the Kermatrol unit and the expected high dust loadings of the exhaust air from the No. 9 shake-out, it may be necessary to apply as a primary collector a wet scrubber. Wet scrubber options include a high energy type scrubber (Venturi) which would have the capability of capturing both the larger solid particulate matter as well as the very fine smoke particles but with the disadvantage of the high energy cost associated with high pressure drop systems. A low to medium energy scrubber could be utilized and would collect the solid particulate matter such as sand and dust from the No. 9 shake-out. It would not capture the very fine materials or the smoke particles. If such a low to medium energy scrubber was selected as the primary collector, it is quite probable that some type of secondary collector such as the Kermatrol unit or an electrostatic precipitator will be required.

Mr. R. C. Hartman
September 19, 1977
page 2

Present plans are to return to producing ductile iron by inoculation with sil-mag. Three treating stations are planned. The present baghouse and fan system and major portions of existing ductwork will be utilized. It will be necessary to design and install new hoods at each separate treating station. In order to have sufficient exhaust air volumes at each treating station, it will be necessary to provide dampers which will shutoff air flow to treating stations at all times other than during the actual treating operation. Mr. Smallwood will be responsible for design of the hooding system and will keep C. O. Engineering Environmental Group informed. Assistance by the Environmental Group will be available as required.

If you have questions or comments regarding the above, please contact me or Mr. D. C. Wallace.


H. R. Sanders

HRS/bd



UNITED STATES PIPE AND FOUNDRY COMPANY

Chattanooga Valve & Fittings Plant

P.O. DRAWER 311

CHATTANOOGA, TENNESSEE 37401

March 10, 1981

RECEIVED

MAR 12 1981

ENGINEERING DEPT.
RECEIVED

Chattanooga/Hamilton County
Air Pollution Control Bureau
3511 Rossville Blvd.
Chattanooga, TN 37407

Attention: Mr. Michael E. Poe

Subject: Certificate of Operation For No. 9 Unit
(Installation Permit No. 3321-30300899-45)

Gentlemen:

Enclosed you will find a copy of the source test report of the test that was conducted on February 10, 1981. Also you will find a Process Weight Analysis sheet that illustrates the method of calculating the process weight during each individual test.


The control device for the No. 9 Unit meets the recently adopted RACT emission rate guide line of .05 grains per standard cubic foot, as stipulated in Rule 26-12 (B), by a substantial margin.

It is not intended at the present time to use the difference in the actual and allowable RACT emission rate as an emission offset for new construction. However, U. S. Pipe reserves the right at some future date to use this difference as a "Banked Credit" according to Sec. 4-6 (F)2d(i).

By transmittal of these calculations and certified test report, U. S. Pipe and Foundry hereby requests a Certificate of Operation for the No. 9 Unit at an operating process weight of 460,000 Lbs./Hr. and an outlet particulate concentration of 0.05 g/dscf.

Sincerely,

UNITED STATES PIPE & FOUNDRY COMPANY


James L. Smallwood,
Plant Engineer

JLS:gjp

Attachment & Enclosure

bcc: Mr. W. Fleck
Mr. R. Hartman
Mr. J. Pleasant w/attachment ✓

a Jim Walter company

MWPS011661

March 10, 1981

Process Weight Analysis

For

No. 9 Unit

• Allowable Emission Rate

Permit Process Weight: 460,000 Lbs/Hr Per Permit No.
3321-30300899-45)

Allowed Emission Rate from Schedule 1: 57 Lb/Hr.

Allowed Particulate Concentration, Rule 26.12 (B) 0.05 gr/dscfm

Process Weight During Testing (2/10/81)

Given - Sand-Density = 0.07 lb/cu. in.
Metal-Density = 0.26 lb/cu. in.

Run #1 9:00 - 10:55 A.M. - No Down Time

Product: 12x8 Tees @ 340 lb iron/flask
4x3 Tees
12 1/2° Bend > @295 lb iron/flask

Iron Weight: 144 x 340 = 48,960
15 x 295 = 4,425
159 53,385

Avg/flask = $\frac{53,385}{159}$ = 335.75 lb.

Add 25% for Gates and Risers

$335.75 + .25 (335.75) = 419.69$ lb iron

Sand Weight: $419.69 \text{ lb iron/flask} \times \frac{\text{cu. in.}}{.26 \text{ lb iron}} = 1614.19 \text{ cu in. of iron}$

$1614.19 \text{ cu. in.} \times 0.07 \text{ lb sand/cu. in.} = 112.99 \text{ lb sand}$

6000 wt. of flask
-113 wt. of sand taken up with iron
5887 lb of sand per flask

Total Weight: 5887 lb sand + 420 lb iron = 6,307 lb/flask

Process Weight: $\frac{6307 \text{ lb/flask} \times 159 \text{ flasks}}{1.92 \text{ hrs}} = 522,298 \text{ lb/hr}$

MWPS011662

March 10, 1981

-2-

Run #2 12:08 - 1:48 P.M. 2 Minutes of Down Time

Product: 16" Bell 400 lb iron/flask
Housing & 6" Bend 330 lb iron/flask

Iron Weight: $47 \times 400 = 18,800$
 $\frac{32}{79} \times 330 = \frac{10,560}{29,360}$

Avg/flask = $\frac{29,360}{79} = 371.65$ lb iron/flask

Add 25% for Gates and Risers

$371.65 + .25 (371.65) = 464.56$ lb iron

Sand Weight: 464.56 lb iron/flask $\times \frac{\text{cu. in.}}{.26 \text{ lb iron}} = 1786.76$ cu. in. of iron

1786.76×0.07 lb sand = 125 lb sand

6000 wt. of flask
 $\frac{-125}{5875}$ wt. of sand
5875 lb. of sand per flask

Total Weight: 5875 lb sand + 371.65 lb iron = 6246.65 lb/flask

Process Weight: $\frac{6246.65 \text{ lb/flask} \times 79}{1.67 \text{ hrs.}} = \frac{284,279 \text{ lb/hr}}$

Run #3 3:00 P.M. - 4:38 - No Down Time

Product: Flanges - 148 lb iron/flask
16" Tee - 255 lb iron/flask
Hub - 624 lb iron/flask

Iron Weight: $54 \times 148 = 7,992$
 $25 \times 255 = 6,375$
 $\frac{23}{102} \times 624 = \frac{14,352}{28,719}$

Avg/Flask = $\frac{28,719}{102} = 281.56$ lb/flask

Add 25% for Gates and Risers

$281.56 + .25 (281.56) = 351.95$ lb/iron

MWPS011663

March 10, 1981

-3-

$$\text{Sand Weight: } 351.95 \text{ lb iron} \times \frac{\text{cu. in.}}{.26 \text{ lb iron}} = 1353.65 \text{ cu. in.}$$

$$1353.65 \times 0.07 \text{ lb sand/cu. in.} + 94.75 \text{ lb sand}$$

$$\begin{array}{r} 6000 \text{ lb wt. of flask} \\ 94.75 \text{ lb wt. of sand displaced by iron} \\ \hline 5905.25 \text{ lb of sand per flask} \end{array}$$

$$\text{Total Weight: } 5905.25 \text{ lb sand} + 351.95 \text{ lb iron} = 6257.2 \text{ lb/flask}$$

$$\text{Process Weight: } \frac{6257.2 \text{ lb/flask} \times 102}{1.63 \text{ hr}} = \underline{391,555 \text{ lb/hr}}$$

Average Process Weight for the Three (3) Runs:

$$\begin{array}{r} 522,298 \\ 284,279 \\ \hline 391,555 \\ 1,198,132 \div 3 = \underline{399,377 \text{ lb/hr.}} \end{array}$$

MWPS011664

UNITED STATES PIPE AND FOUNDRY COMPANY

Birmingham, Alabama

June 13, 1985

MEMORANDUM FOR RECORD

From: John Pleasant

Subject: Chattanooga Valve and Fittings Plant - Air Pollution
Control - No. 9 Fittings Unit; Ducon ScrubberCopies to: Mr. W. E. Fleck
Mr. C. N. Coddling
Mr. D. C. Wallace
Mr. W. A. Berry
Mr. J. Smallwood - Mr. J. Moore

In May of 1975, a court order initiated by the Chattanooga-Hamilton County Air Pollution Control Bureau (CHCAPCB) caused the low energy wet scrubber (Schnieble) to be removed from service since it could not meet the opacity regulations. The duct work was rerouted and these emissions were collected in the ductile baghouse. However, due to high moisture content of the gases, this solution proved unacceptable. In July of 1978, an agreement was reached with the CHCAPCB for installing a wet scrubber control device capable of producing 10 inches of pressure drop which, at that time, was ruled to be Best Available Control or BACT. Subsequent failure by the Air Pollution Control Commission to adopt BACT regulations resulted in new proposed regulations for the foundry industry in Chattanooga. In September of 1980, the same equipment which had been proposed was deemed acceptable and met the requirements which now were termed RACT or Reasonably Available Control Technology. A specified emission quantity regulation of 0.05 gr. / dscfm was required. Installation of this unit was completed by January of 1981.

In February of 1981, this unit was tested for compliance with the regulations and passed. An operating permit was issued in March, 1981. The unit has functioned with no serious problems until December of 1984. During the annual inspection, the inspector from the CHCAPCB

noted visible emission violations and subsequently refused to grant the renewal of the operating permit. In January of 1985, a meeting was held with the CHCAPCB regarding the Ducon Scrubber on the No. 9 unit to discuss a solution to the visible emission problems which had been noted. Plant personnel had, in the meantime, checked the operation of the unit and found that the variable throat was incapable of being adjusted and that the required pressure drop (10 in. w. g.) could not be achieved. Eventually a new variable throat was installed and the proper pressure drop was achieved in May, 1985.

Upon completion of the above repair, enforcement personnel inspected the unit to determine if compliance had been achieved. Four visible emission violations were noted between May 7 and May 24. U. S. Pipe has received a letter from the CHCAPCB dated June 3, 1985, requesting that a malfunction report be submitted concerning the above noted violations. Also, four Notices of Violation have been received requesting a Director conference.

On May 31, 1985, I visited the plant and observed a dense white smoke fume coming from the No. 9 unit Ducon Scrubber. The pressure drop was observed to be 10 - 11 in. w. g. Not all of the smoke was being captured at the hood inside the building. The conveyor transporting hot castings from the mold dump to the shakeout also had what, in my opinion, was a large amount of smoke. The following recommendations are made in an effort to look at all aspects affecting the visible emissions problem of this source.

(1) Perform evaluations of the mold sand mix; gilsonsites and super coal are additives that can allow a reduction in the use of sea-coal and thus reduce smoking.

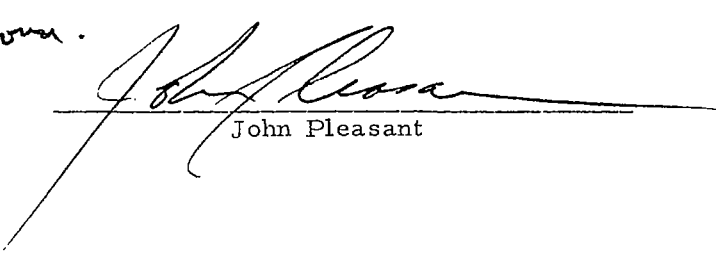
(2) Perform a loss on ignition test of Isocure vs. Shell Core and a burning of the two core materials to determine if, in fact, Isocure cores result in more smoke. I am not sure at this point what this information might mean except that it would give us a legitimate reason for requesting additional time to investigate the ramifications of this information since the rest of our alternatives are very unattractive.

(3) Replace the existing scrubber with one that develops much higher pressure drops which are required to remove the submicron material. That pressure drop may be as high as 60 in. or more but would have to be determined through pilot scale testing. Power cost, of course, would be as much as 4 to 5 times higher than they are with the present system.

(4) By increasing the air volumes from areas where dust control is now needed, the addition of this hot air could allow the use of a baghouse. However, with it already being 48 - 50,000 cfm from the mold drop alone, this would be a very large baghouse and an extremely high first cost unit.

(5) The last alternative is to add an electrostatic precipitator to the existing Ducon scrubber for removal of the submicron material.

(6) Duct Emissions to the Cupola
baghouse.


John Pleasant

JP/js

UNITED STATES PIPE AND FOUNDRY COMPANY

August 23, 1985

TO: Mr. J. Smallwood **ADDRESS:** Chattanooga Valves and Fittings
FROM: John Pleasant **ADDRESS:** General Office
SUBJECT: Proposed Compliance Attainment Plan for Chattanooga
Valves and Fittings No. 9 Molding Unit
COPIES TO:
Mr. W. E. Fleck
Mr. C. N. Coddling
Mr. D. C. Wallace
Mr. W. A. Berry
Mr. D. Urbaniak

The following is a proposed list of tasks to be performed for identifying the smoke problem and attaining compliance with Chattanooga-Hamilton County Air Pollution Control regulations:

- (1) Plant should perform engineering and maintenance inspection of all hoods and duct work on the No. 9 system and assure that all branch ducts are unplugged and open, and that any holes in duct work or other defects in blast gates are repaired.
- (2) Plant personnel with G. O. assistance will perform necessary testing to determine wet bulb - dry bulb temperatures and air flows in the branches.
- (3) Plant personnel shall determine the following production and material testing data: (a) process weights; sand, cores, iron for 1980 and 1985 in pounds per hour; (b) number of days operated and hours per shift for 1980 and 1985; (c) percent shell core versus Isocure core use for 1980 and 1985; (d) perform loss on ignition tests for mold sand and core sand (both shell core and Isocure core).
- (4) Plant with necessary vendor assistance will perform tests with mold sand, no-coal premixes. (Two to three weeks testing required to determine if smoke problem is improved per Porter-Warner.)
- (5) Plant engineering and G. O. will evaluate the data gained through the above tests and make preliminary design estimates based on that data.

- 2 -

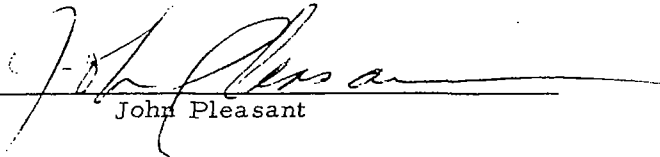
Mr. J. Smallwood

August 23, 1985

(6) Plant to install a side draft duct for equipment testing (baghouse, ESP and scrubber). Preliminary cost estimates can then be made.

(7) Final compliance schedule for the placement can be determined after this work is completed.

The above is submitted for your comment. Let's discuss it as soon as possible.


John Pleasant

JP/js

WET SCRUBBING DEVICE
AIR POLLUTION CONTROL EQUIPMENT DATA

1. Name of Company (as shown on Line 1, Form E001): U. S. Pipe & Foundry Co.

2. Equipment Name (as shown on Line 10, Form E001): No. 9 Unit - Sand Handling and Preparation and Shake-Out.

3. Manufacturer of Wet Scrubber: Ducon or equivalent
Model Number: 38 Cost of Wet Scrubber: _____

4. Does wet scrubber contain pre-cleaning equipment: ☐ Yes ☒ No
If yes, what type: _____
(File applicable form for control equipment).

5. Volume of gas discharged from wet scrubber at dry standard conditions:

35100 dscfm

6. Pressure Drop Across Wet Scrubber:

Stated by manufacturer: 10 inches of H₂O
Measured (actual): _____ inches of H₂O

7. Properties of Gas Inlet to Scrubber:

A. Temperature of inlet gas (Ti):	<u>100</u>	°F
B. Pressure of inlet gas (Pi):	<u>-</u>	inches of H ₂ O
C. Inlet gas velocity (Vi):	<u>84.4</u>	ft/sec
D. Area of inlet (Ai):	<u>7.9</u>	ft ²
E. Inlet gas density (ρ _g):	<u>0.07</u>	lbs/ft ³
F. Gas viscosity (μ):	<u>-</u>	lbs/ft-sec
G. Moisture in gas stream:	<u>4</u>	%
H. Dew point of gas stream:	<u>100</u>	°F

8. Indicate which of the following are components of the wet scrubber:

<input type="checkbox"/> Flow Rate Instrument	<input type="checkbox"/> Inlet Gas Temperature Instrumentation
<input type="checkbox"/> Transmissometer	<input checked="" type="checkbox"/> Differential Pressure Instrumentation
<input type="checkbox"/> Heat Exchanger	<input type="checkbox"/> Gas Preheater

9. Type of Wet Collection Device:

- ☐ Spray Chamber ☐ Mechanical Scrubber ☒ Venturi Scrubber or equivalent
☐ Packed Tower ☐ Centrifugal Scrubber ☐ Cyclonic Scrubber
☐ Variable Pressure Drop Orifice Scrubber ☐ Orifice Type Scrubber
☐ Wet Impingement Collector ☐ Wet Filter

10. Operation of Wet Scrubber:

- ☒ Continuous ☐ Intermittant ☐ Periodically

Pressure Drop: 10 inches H₂O

Does scrubber have a special wear resistant plate? ☒ Yes ☐ No

Shape of wet scrubber (chamber):

- ☐ Rectangular ☐ Cubical ☒ Cylindrical

☐ Other (Describe): _____

Size of scrubber (volume): _____ ft³

Give dimensions (ft): 22 Height; _____ Length; 114" Dia. (Separate Width Depth)

Construction Material: Carbon Steel cylindrical

11. Collecting Medium Data:

Type Scrubbing Liquid:

☒ Water

☐ Other (list chemical agent(s) used): _____

Purpose for Chemical Agent:

- ☐ Surface Reactant ☐ Neutralizing Agent ☐ Wetting Agent

☐ Other (specify): _____

Liquid Consumption Rate: _____ gallons per 1000 cfm of gas

Inlet Liquid Pressure: _____ psi

Inlet Liquid Temperature: Normal _____ °F

Maximum _____ °F

12. Answer only the questions which are applicable to your control equipment.

Direction of spray (to the gas flow): ☐ Normal ☒ Parallel ☐ Tangential

Type of Spray Nozzle: ☐ Hollow Cone ☐ Full/Solid Cone ☐ Atomizing

Describe Impingement Plate(s):

Number of Impingement Plates in Collector:

Number of Holes Per Impingement Plate:

Area of Each Impingement Plate:

Average Area of Each Opening Through Plate:

Type of Packing (describe):

Height of Packing Material in Collector: ft

Describe the Type of Impingement Target Used:

13. Type of Mist Eliminator (describe): Cyclonic

14. Dust Size Distribution in Microns (μ):

Dust Type(s): Sand

Size	0-5 μ	5-10 μ	10-20 μ	20-44 μ	Greater than 44 μ
Give % by weight	%	%	%	%	%

15. Sludge Disposal Method:

☒ Automatic ☐ Manual ☐ Other (describe):

How often are hoppers emptied? Every hours

Is a water clarification and recycling system utilized by this equipment? ☒ Yes ☐ No

Site of sludge disposal: Plant Landfill

16. Particulate Control Efficiency:

~~ESTIMATED EFFICIENCY~~

~~Manufacturer's stated efficiency:~~

Required efficiency:

Operating efficiency (performance testing):

99

%

%

%

17. Location of the fan: ☒ Clean air side (pull) ☐ Dirty air side (push)

TYPE FAN	TYPE BLADE
A. <input checked="" type="checkbox"/> Centrifugal (radial-flow)	<input type="checkbox"/> Forward curve <input type="checkbox"/> Backward curve <input checked="" type="checkbox"/> Straight
B. <input type="checkbox"/> Axial-flow (propeller)	<input type="checkbox"/> Tube-axial <input type="checkbox"/> Vane-axial <input type="checkbox"/> Propeller

FAN DATA: Diameter: 71-3/4 ins. Braking HP: 161 BHP Speed: 800 RPM
Inlet area: 9.2 ft² Outlet area: 9.17 ft² Motor HP: 175 HP
Volume: 35,100 cfm @ STP Static pressure: 18.5 inches Wc @70°
☒ Standard ☐ Heavy Duty
Submitted a copy of Manufacturer's Multirating Table: ☐ Yes ☒ No
Special Materials of Construction:
☐ Bronze alloy ☐ Aluminum ☐ Stainless steel ☐ Bisonite
☐ Zinc chromate primer ☐ Rubber, phenolics, vinyls, epoxy covering

C. <input type="checkbox"/> Compressor	<input type="checkbox"/> Positive-displacement	<input type="checkbox"/> Dynamic	<input type="checkbox"/> Reciprocating
--	--	----------------------------------	--

Submit plans or drawing of this equipment.

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Company Official: _____

CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 ROSSVILLE BOULEVARD
CHATTANOOGA, TENNESSEE 37407

Title: Plant Engineer

Date: _____

DO NOT WRITE BELOW THIS LINE

Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT*

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact Jim Moore 4. Phone No: 265-4611
5. Mailing Address for Line 3: 2701 Chestnut St., Chattanooga, TN. 37408
Street City State Zip Code
6. Company Address:
(if different from line 5): _____
Street City Zip Code

7. Application for:
- ☐ Installation Permit
- ☐ Certificate of Operation (Initial Application)
Temp. Operating Permit No.: _____
- ☐ Temporary Operating Permit
Instal. Permit No.: _____
- ☒ Certificate of Operation (Renewal)
Certificate of Operation 3321-30400399-42C

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit Form E010; ☐ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: No. 9 Unit (Code 31F)

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

ENGINEERING CALCULATIONS

PROJECT _____ G.O. _____ PLANT Chatt. V&F
 SUBJECT RACT
 BY HRS DATE 4/8/80 CHKD. BY _____ DATE _____

CALCULATE EMISSION RATES BASED ON INVENTORY DATA

1. PN - 30400202-01 - Brass & Bronze Melting & Pouring

Data from
emissions
inventory

Actual Emissions = 1 lb/hr. (@ 99% control)
 Actual Exhaust Volume = 337 ft³/sec
 " Temp. = 250 °F = 710 °R

$$\frac{1 \text{ lb/hr} \times 7000 \text{ gr/lb}}{337 \frac{\text{ft}^3}{\text{s}} \times 60 \frac{\text{min}}{\text{hr}} \times 60 \frac{\text{sec}}{\text{min}} \times \frac{530}{710}} = 0.00077 \text{ gr/scf}$$

(.065 gr/dscf)

2. PN - 30400399 - 31 Unit No. 4

Act. Emissions = 115 lb/hr. (@ 0% control)
 " Exh. Vol. = 90 ft³/sec
 " Exh. Temp = 70 °F

$$\frac{115 \times 7000}{90 \times 3600} = 0.248 \text{ gr/scf}$$

(0.248 gr/dscf)

3. PN - 30400350-35 Aerodyne Pneumatic Sand Transport

Act. Em. = 8 lb/hr (@ 99% control)
 Act. Exh. Vol. = 4 ft³/s
 Exh. Temp = 70 °F

$$\frac{0.8 \times 7000}{4 \times 3600} = 0.389 \text{ gr/scf}$$

(0.291 gr/dscf)

ENGINEERING CALCULATIONS

PROJECT _____ G.O. _____ PLANT CV&FSUBJECT RACTBY HRS DATE 4/8/80 CHKD. BY _____ DATE _____4. DN-30300899-45 No. 9 Unit

$$\text{Act. Em.} = 19.1 \text{ lb/hr. } (\text{@ } 0\% \text{ control})$$

$$\text{Act. Exh. Vol.} = 833 \text{ F}^3/\text{s}$$

$$\text{Exh. Temp.} = 248^\circ\text{F} = 708^\circ\text{R}$$

$$\frac{19.1 \times 7000}{833 \times 3600 \times \frac{530}{708}} = \frac{0.0591 \text{ gr/scf}}{(0.04 \text{ gr/scf})}$$

BEST AVAILABLE CONTROL TECHNOLOGY

U. S. PIPE VALVE DIVISION

Unit Number 9

- A. Sand handling, shakeout, and sand preparation
 - (1) Hoods were needed and replace or repair previous ducts to be vented into control (50,000 cfm scrubber, 10" W.g)
- B. Pouring and cooling
 - (1) Hood and vent pouring and cooling emissions to control (50,000 cfm scrubber, 20-30" W.g)

Unit Number 4

- A. Sand handling, shakeout, and sand preparation
 - (1) Shakeout enclosed, hood or enclose sand transfer points (50,000 cfm scrubber)
- B. Pouring and cooling
 - (1) Hood pouring line and tunnel hood cooling, vent to control (50,000 cfm scrubber 20-30" W.g)

Unit Number 10

No additional controls recommended

Electric induction furnaces

Local hoods exhausted to fabric filters (close fitting hood pouring from furnace, canopy hood pouring into furnace)

Inoculation

No additional control recommended

Cleaning and grinding

No additional controls recommended

Core making

Local hoods vented to control (fabric filter or medium energy scrubber)

Melting Operations

No additional controls recommended

RACT SOURCE COMPLIANCE SCHEDULES

(Install Control Equipment or Replacement Process Equipment)

November 30, 1980	-	Submit Final Plans
February 28, 1981	-	Contracts Awarded and Components Purchased
June 30, 1981	-	Initiation of Construction
March 31, 1982	-	Construction Complete
May 31, 1982	-	Final Compliance

(Modification of Existing Process Equipment)

November 30, 1980	-	Submit Final Plans
February 28, 1981	-	Contracts Awarded and Components Purchased
June 30, 1981	-	Initiation of Construction or Modification
November 30, 1981	-	Modifications Complete
February 28, 1982	-	Final Compliance

SOURCES AFFECTED BY RACT

I. Based on Emission Inventory

A. CSP

- All sources meet mass emission standard.
- If 5' sand prep. collector tested, will not pass.

B. CV&F

1. Lead Melting Furnace
 - Low air volume (Bubble)
2. Core Oven (Steiner-Ives)
 - Low air volume (Bubble)
3. Unit No. 4
 - No.'s are gross estimates. No stack.
4. Boothe Pneumatic Sand Transporter
 - Low air volume (Bubble)
5. Aerodyne Pneumatic Sand Transporter
 - Low air volume (Bubble)
6. Aerodyne Pneumatic Sand Transporter
 - Low air volume (Bubble)
7. No. 9 Unit
 - Must be tested. Numbers in inventory are for old^d unit. Increase Δ if not in compliance.

II. 5% Opacity Regulation

A. CSP

1. Exhaust fans above return sand bins may not comply (Baghouse).
2. Shell core building (Bubble)

B. CV&F

1. No. 10 Area Ductile Treating
 - Correct hooding
2. No. 4 Area (No. 4 Shakeout)
 - Collector on shakeout.
3. No. 9 Furnace Area
 - Improve hooding (Add new system @ No. 10 ductile)

III. Not Previously Permitted, But Exhausted

A. CSP

- None

B. CV&F

- No. 9 Pouring & Cooling
 - Test. Probably comply.

COST

CSP

5 Ft. Sand System - \$120,000 (Baghouse)
5 Ft. Shakeout - \$288,000 (Baghouse)

CV&F

No. 4 Area

Shakeout - \$260,000 (Baghouse)
Pouring (only) - \$145,000 (Close Capture w/Baghouse)
Cooling (only) - \$480,000 (Canopy w/Baghouse)

No. 9 Scrubber

New Motor - \$ 15,000
Testing &
Scaffolding - \$ 5,000

No. 10 Ductile Treating

Correct Hooding
& Add Damper - \$ 25,000

No. 9 Furnace Area

Additional Pick-
ups only - \$ 25,000
Add New Baghouse
for No. 10
Ductile - \$250,000 (25,000 cfm @ \$10.00/cfm)

No. 9 Pouring & Cooling

Pouring (only) - \$130,000 (Close Hooding & Baghouse)
Cooling (only) - \$420,000 (Baghouse)
Testing (only) - \$ 30,000 (Testing & Scaffolding)

*Based on 1978 BACT estimates
w/ 1.2 escalation factor.*



UNITED STATES PIPE AND FOUNDRY COMPANY

Chattanooga Valve & Fittings Plant

P.O. DRAWER 311

CHATTANOOGA, TENNESSEE 37401

November 20, 1980

RECEIVED
NOV 24 1980

ENGINEERING DEPT.
REFERRED

Mr. Mike Poe
Chattanooga/Hamilton County
Air Pollution Bureau
3511 Rossville Blvd.
Chattanooga, TN. 37407

Subject: Unit No. 9 - Sand Handling Preparation and Shakeout
Permit No. 3321-30400399-426

Dear Mr. Poe:

Please find attached our application for a Certificate of Operation (Renewal) for the above referenced source. This letter is also in response to the listing in your September 29, 1980, letter of this source as not meeting Reasonably Available Control Technology (RACT) requirements.

The Chattanooga/Hamilton County Air Pollution Control Bureau (Bureau) determined that Best Available Control Technology (BACT) for the Unit No. 9, Sand Handling, Shakeout, and Sand Preparation would be a scrubber operating at 10 inches w.g. pressure drop. U. S. Pipe and Foundry Company was so advised at a meeting between Bureau personnel and U. S. Pipe representatives on May 24, 1978. Based on this determination U. S. Pipe purchased and installed control equipment.

On July 28, 1978, U. S. Pipe submitted an application for an Installation Permit for the No. 9 Unit. It was stated that installation of this particular control equipment was based on the Bureau's acceptance of the proposed control equipment as satisfying the full intents and purposes of Rule 19 of the local air pollution rules and regulations, which at that time were referred to as BACT. The Installation Permit was granted based on the July 28, 1978 application.

It is the view of U. S. Pipe that this unit presently meets the Chattanooga/Hamilton County Air Pollution Control rules and regulations and should be granted the operating permit renewal requested.

Should you have any questions about this, please do not hesitate to contact U. S. Pipe.

Very truly yours,

UNITED STATES PIPE AND FOUNDRY COMPANY

James L. Smallwood
James L. Smallwood,
Plant Engineer

JLS:gjp

Attachment

United States Pipe and Foundry Company

MWPS011681

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT*

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact Jim Moore 4. Phone No: 265-4611
5. Mailing Address for Line 3: 2701 Chestnut St., Chattanooga, TN. 37408
Street City State Zip Code
6. Company Address
(if different from line 5): _____
Street City Zip Code

7. Application for:
- | | |
|--|---|
| <input type="checkbox"/> Installation Permit | <input type="checkbox"/> Certificate of Operation (Initial Application)
Temp. Operating Permit No.: _____ |
| <input type="checkbox"/> Temporary Operating Permit
Instal. Permit No.: _____ | <input checked="" type="checkbox"/> Certificate of Operation (Renewal)
Certificate of Operation <u>3321-30400399-42C</u> |

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit ~~E010 or Form E010A~~; ☐ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: _____

10. Equipment Name: Unit No. 9 (Code 31F)

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12.

Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lbs/hr, (Item 3C on Form E012), or
 Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

448,920 LB/HR

This is to certify that I am familiar with operations concerning this equipment and the information provided
 on this application is true and complete to the best of my knowledge:

Mail To:

CHATTANOOGA-HAMILTON COUNTY
 AIR POLLUTION CONTROL BUREAU
 3511 Rossville Boulevard
 Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant Engineer

Date: October 28, 1980

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____

_____ Entered into tape file and state keypunch form filed

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____

Permit Number: _____

Approved By: _____

Director

Date: _____

UNITED STATES PIPE AND FOUNDRY COMPANY - SPEED LETTER

TO J. Smallwood ADDRESS CV 87SUBJECT: #9 Unit Test.

Jim, Please review the attached letter
per our telcon of 1.26.81. Any
questions please call. Blind copy, when
submitted.

FROM J. Pleasant ADDRESS Go DATE 1.27.81

REPLY: To _____ ADDRESS _____

FROM _____ DATE _____

SENDER'S COPY - DETACH AND RETAIN

ROUGH DRAFT

January 26, 1981

Chattanooga/Hamilton County
Air Pollution Control Bureau
3511 Rossville Blvd.
Chattanooga, TN 37407

Attention: Mr. Michael E. Poe

Subject: No. 9 Unit - Sand Handling System - Permit No. 3321-30400399-45
U. S. Pipe & Foundry Company
Chattanooga Valve and Fittings Plant

Reference: 1) Letter From Mr. M. E. Poe to Mr. J. L. Smallwood dated
January 16, 1981
2) Letter from Mr. M. E. Poe to Mr. H. R. Sanders dated
December 5, 1980

Dear Mr. Poe:

This will acknowledge receipt of your January 16, 1981, letter regarding the No. 9 unit. By now, you should have received the application for a temporary operating permit. Under the assumption that this permit will be readily forthcoming, U. S. Pipe is proceeding to make arrangements for stack testing the No. 9 unit control device.

U. S. Pipe would also like to reiterate its position regarding the emission limitations set by you for the No. 9 unit in your letter of December 5, 1980. You will recall that the selection of a 10" pressure drop scrubber as the control device for this operation was made subject to regulations in effect on July 28, 1978, when our application for an installation permit was submitted. At that time, it was agreed between U. S. Pipe and the Chattanooga/Hamilton County Air Pollution Control Bureau (Bureau) that this control equipment would meet the existing regulation of Best Available Control Technology (BACT). Also at that time, a verbal agreement between U. S. Pipe

January 26, 1981
Page 2

and the Bureau stated that if a source test was deemed necessary, then the compliance would be based on maintaining 10" pressure drop and the measured mass emission rate would be used to establish a compliance level.

U. S. Pipe understands that laws and even the personnel of the Bureau have changed since July 28, 1978. We are presently willing to test the No. 9 unit and trust that the .05 grains per standard cubic ft. mass emission limitation referred to in your letter of December 5, 1980, can be met. Should this not be the case, however, we trust that the Bureau can adopt a flexible attitude and that a fair and equitable solution can be reached.

As soon as a final test date (which is now tentatively scheduled for February 9 & 10, 1981) is set, you will be notified in order to observe the testing procedure. If there are any questions, please do not hesitate to call me.

Very truly yours,

J. Smallwood

**Part 70 Permit Number
47-065-3321**

This Permit Shall Remain in Full Force and Effect

From April 9, 1999 Through April 8, 2004

Issued to:

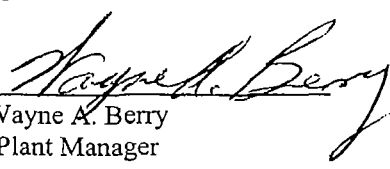
**UNITED STATES PIPE AND FOUNDRY COMPANY, INC.
2501-2701 CHESTNUT STREET
CHATTANOOGA, TENNESSEE 37408**

Designated Representative:
Dennis Urbaniak

TELEPHONE: (423) 752-3912

Responsible official:

Agreed to By:

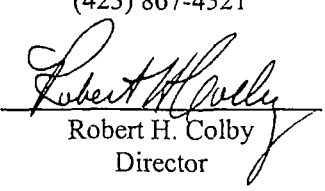

Wayne A. Berry
Plant Manager

An Application For Renewal Must Be Submitted to the Director of
the Chattanooga-Hamilton County Air Pollution Control Bureau

No Later Than September 9, 2003

**CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU**

3511 Rossville Blvd
Chattanooga, Tennessee 37407
(423) 867-4321


Robert H. Colby
Director

Prepared by James V. Ware, Jr., E.I.T.

MWPS011687

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The emissions units regulated by this permit are the following:

Emission Unit	Certificate of Operation	Description
101	Previously Unpermitted	Charge Handling
102	3321-30400101-40C	Melting Facility
103	Previously Unpermitted	Hot Metal Transfer
104	Previously Unpermitted	Desulfurization & Slagging
105	3321-30400303-41C	Induction Holding Furnaces
106	3321-30400301-39C	Ductile Treating Process
107	Previously Unpermitted	No. 9 Unit Inoculation & Slagging
108	Previously Unpermitted	No. 4 & No. 10 Units Inoculation & Slagging
109	3321-30400101-39C	Fitting Plant Pouring & Cooling Operations
110	3321-30400101-39C	No.9 Unit Shakeout
111	3321-30400101-39C	No.4 & No.10 Units Shakeout
112	3321-30400340-15C 3321-30400340-30C 3321-30400101-38C	No. 9 Unit Casting Cleaning
113	3321-30400340-16C 3321-30400299-50C	No.4 & No.10 Units Casting Cleaning
114	3321-30400340-15C 3321-30400340-16C 3321-30400360-18C 3321-30400360-19C 3321-30400360-25C 3321-40200101-51C	Grinding, Finishing, & Priming Operation
115	3321-40200101-36C 3321-40200101-37C 3321-40200101-43C 3321-40200101-52C	Cement Lining Building
116	3321-40200801-42C	Special Coating Operation
117	3321-30400399-31C	No. 4 Unit Greensand Mold System
118	3321-30400350-35C	No. 10 Unit Airset Mold System
119	3321-30400350-44C 3321-30400350-35C	No. 10 Unit Sand Reclamation

120	3321-30400358-46C	No.9 Unit Greensand Mold System
121	Previously Unpermitted	Shell Cores Process
122	3321-30400398-33C	Airset Core System
123	3321-30400398-34C 3321-30400371-54C 3321-30400371-55C 3321-30400371-56C	Isocure Core System
124	3321-30400398-32C	Pepset Core System
125	3321-40200601-57C	Refractory Coating Operation
126	Previously Unpermitted	Packaging & Shipping Operation
127	3321-30400301-47C 3321-30799999-20C 3321-30799999-21C	Ancillary Fitting Plant Operations
128	3321-30400340-58I 3321-30400340-59I 3321-40202599-60I	Fusion Bonded Epoxy Process
201	3321-30400202-01C 3321-30400202-61I	Brass Melting Operation
202	3321-30400202-01C 3321-30400350-07C	Valve Plant Pouring, Cooling, Shakeout
203	3321-30400340-02C 3321-30400299-03C	Brass Cleaning Operation
204	3321-30400330-05C 3321-30400350-11C	Valve Plant Mold Making Operation
205	Previously Unpermitted	Valve Plant Core Making
206	3321-40200101-12C 3321-40200101-13C	Valve & Hydrant Production
207	3321-30400340-04C 3321-30400340-45C 3321-40202599-48C 3321-40202599-49C	Resilient Seat Valve Production
208	3321-30301001-09C 3321-60300103-53C	Ancillary Valve & Hydrant Plant Operations
301	Previously Unpermitted	Solid Waste Landfill

Conditions of General Applicability

This permittee, United States Pipe and Foundry Company, Inc., is subject to each of the conditions expressed below and is required to comply with them throughout the term of the permit, and by accepting this permit and operating under it United States Pipe and Foundry Company, Inc. agrees to comply with all terms, provisions, limitations and requirements herein.

ALL SECTIONS OF THE CHATTANOOGA AIR POLLUTION CONTROL ORDINANCE CITED IN THIS PERMIT AS SET FORTH IN THIS ORDINANCE AS OF THE DATE OF PERMIT ISSUANCE ARE INCORPORATED HEREIN BY REFERENCE. Section numbers referred to in this permit which are not otherwise identified refer to sections in the Chattanooga Air Pollution Control Ordinance.

- 1.0. Definitions. Unless specifically defined within an air pollution control ordinance provision referenced elsewhere in this permit, the definitions in §4-2 and §4-53 shall apply. §4-2; §4-53
- 2.0. Severability. If any provision, part of a provision, sentence, clause or phrase in this permit is for any reason declared to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such decision shall not affect the validity of any other portion of this permit, and only such invalid portion shall be elided. §4-57(a)(5)
- 3.0. Compliance.
 - 3.1. The permittee must comply with all conditions of the Part 70 permit. Noncompliance with any permit provision constitutes a violation of either the Chattanooga City Code, Part II, Chapter 4, known as "The Chattanooga Air Pollution Control Ordinance"; the Tennessee Air Quality Act, T.C.A. 68-201-101 *et. seq.*; and/or the federal Clean Air Act, as amended, Title 42 United States Code §7401 *et. seq.* and is grounds for joint and several enforcement action; for permit termination, revocation or modification; or for denial of a permit renewal application. Enforcement by the Board or Bureau Director shall be conducted in accordance with the provisions of §4-4, §4-7, §4-14, §4-15, §4-17, §4-18, §4-20, §4-61, §4-62, §4-63, §4-64, and §4-65, as appropriate to the circumstances. §4-57(a)(6)(I)
 - 3.2. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. §4-57(a)(6)(ii)
 - 3.3. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination; or the filing of a notification of planned changes or anticipated noncompliance does not stay any condition in this permit. §4-57(a)(6)(iii)
 - 3.4. A compliance certification shall be submitted within (12) twelve months after the issuance date of this permit and annually every twelve months thereafter throughout the term of this permit, or such more frequent periods as specified in any applicable requirement included in this permit. The compliance certification shall be submitted to the Chattanooga-Hamilton County Air Pollution Control Bureau in Chattanooga, Tennessee and to Air and EPCRA Enforcement Branch, U.S. EPA Region 4, 61

Forsyth Street, SW, Atlanta, GA 30303. Such certification shall include the following information:

- 3.4.1. Identification of each term or condition of the permit that is the basis of the certification;
 - 3.4.2. Compliance status;
 - 3.4.3. Whether compliance was continuous or intermittent;
 - 3.4.4. The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with §4-57(a)(3);
 - 3.4.5. Where any specific test method requires quality assurance audit samples and the audit result does not validate the source's sample within the specified parameters, the source must retest the stack test until such time as the audit result does validate the sample within the specified parameters; except that the Bureau Director may waive retesting if the source's stack test sample is in compliance with this permit even if not validated within the specified quality assurance parameters. §4-3(d)
 - 3.4.6. Such other facts as the Board or Bureau Director may require to determine the compliance status of the Part 70 source; and §4-57(c)(5)(iii)(E)
 - 3.4.7. Such additional requirements as may be required for enhanced monitoring compliance certification under Title 42 U.S.C. § 7414(a)(3) and §7661c(b) of the Clean Air Act. §4-57(c)(5); §4-3(d)
- 3.5. The methods set forth in §4-3 shall be applicable for determining compliance with all terms, provisions, limitations and requirements contained in this permit, except where otherwise specifically provided in this permit.

4.0. Property Rights.

This permit does not convey any property rights of any sort or any exclusive privilege. This permit is not assignable except as provided in §4-58 (d)(I)(iv). §4-57(a)(6)(iv)

5.0. Information to be Furnished.

The permittee shall furnish to the Bureau Director, within a reasonable period of time, any information that the Board or the Bureau Director may request in writing to determine whether cause exists for modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board or the Bureau Director copies of records required to be kept by the permit. For information claimed to be confidential, the permittee may furnish such records directly to the Administrator of the U. S. Environmental Protection Agency along with a claim of confidentiality. Eligibility for confidential treatment shall be determined by the Board pursuant to the provisions of §4-19 of the Chattanooga Air Pollution Control Ordinance for information submitted directly to the Bureau Director. An independent determination regarding confidentiality would be made by the Administrator of the U.S. Environmental Protection Agency for information submitted directly to the Administrator. §4-57(a)(6)(v)

this permit.

11.5. For the purposes of Items 11.2, 11.3, and 11.4 of these Conditions of General Applicability, "reasonable times" shall be considered to be customary business hours, unless reasonable cause exists to suspect noncompliance with the Chattanooga Air Pollution Control Ordinance or any "applicable requirement," as defined in §4-53, or with any permit issued thereunder, and the Bureau Director specifically authorizes a designee to inspect a facility at any other time.

11.6. In the alternative, the Bureau Director, other employees of the Chattanooga-Hamilton County Air Pollution Control Bureau, or any other law enforcement officer may obtain a search warrant to obtain, collect and preserve evidence. §4-16; §4-57(c)(2)

12.0. Record Retention Requirements.

12.1. All required monitoring data and related support information shall be retained by the permittee for five (5) years after the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, copies of all reports, and logs required by the permit. §4-57(a)(3)(ii)(B)

12.2. Reporting of Deviations. The permittee shall promptly report all emissions limitations exceedances and all other deviations from permit requirements (including those attributable to malfunctions), the probable cause of such exceedances or deviations, and any corrective actions or preventive measures taken. "Promptly report" shall mean an initial telephone report to the Bureau Director within twenty-four (24) hours after the onset of the exceedance or other deviation, followed up by a written report submitted to the Bureau Director within seven (7) days after the onset of the exceedance or other deviation. Any excess emissions or other deviation that creates an imminent hazard requiring immediate action to protect health or safety must be reported by telephone immediately to the Bureau Director, to the appropriate local emergency response agency, to the appropriate national response agency, and to the Tennessee Emergency Management Agency. §4-12 and §4-57(a)(3)(iii)(B)

13.0. Emergency Provision.

13.1. Definition. An emergency is any situation arising from sudden and reasonably unforeseeable events beyond the control of the permittee, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the permittee to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. §4-57(g)

13.2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Item 13 of these Conditions of General Applicability are met, unless an ambient air violation occurs as a result of the emergency. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or

other relevant evidence which establishes that:

- 13.2.1. An emergency occurred and that the permittee can identify the cause(s) of the emergency; and
 - 13.2.2. The permitted facility was at the time being properly operated; and
 - 13.2.3. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
 - 13.2.4. The permittee submitted telephone notice of the emergency to the Bureau Director within one (1) working day of the time when emission limitations were exceeded due to the emergency, and the permittee submitted a follow up written report to the Bureau within seven (7) days after the onset of the exceedance. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. §4-57(g)
- 13.3. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. §4-12; 4-57(g)
- 13.4. The permittee must employ all reasonable measures to keep emissions to a minimum during start-ups, shutdowns, operation, and emergencies. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Exceedances of limitations on emissions that are caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered emergencies, and shall be considered in violation of the emission standard exceeded. §4-12
- 13.5. A log of any operation or failure to operate, start-up, or shutdown resulting in air pollutant emissions in excess of any applicable requirement must be kept at the Part 70 source. This log must record at least the following:
- 13.5.1. Stack, air pollution control equipment, or emission point involved;
 - 13.5.2. Time excess emissions, start-up, or shutdown began or when excess emissions were first discovered by the source;
 - 13.5.3. Type of exceedance qualifying as a malfunction, or reason for shutdown;
 - 13.5.4. Time start-up or shutdown was complete or time the air pollutant source returned to normal operation after an emissions exceedance;
 - 13.5.5. Documentation that the source was or was not, at the time of the onset of the exceedance, being properly operated;
 - 13.5.6. Documentation of any preventative maintenance of the air pollution control equipment or process equipment or processes that had been completed prior

to the emissions exceedance, start-up, or shutdown;

13.5.7. The steps taken by the source during the period of the emissions exceedance, start-up, or shutdown to minimize levels of emissions that exceeded the applicable requirements; and

13.5.8. The magnitude and identity of the excess emissions, expressed in pounds per hour and the units of the applicable emission limitation, and the operating data and calculations used in determining the magnitude of the excess emissions. §4-12

13.6. The information required by Items 13.5.1 and 13.5.2 of these Conditions of General Applicability must be entered into the log by the end of the shift during which the exceedance or other deviation began. All required information shall be entered in the log no later than 24 hours after the exceedance or other deviation has ceased or has been corrected. Any later discovered corrections may be added in the log as footnotes with the reason given for the change. There shall be no erasures, obliterations, modifications, or revisions of the log entry except by single line-through and identification of corrections. §4-12

13.7. If the Bureau Director or the Administrator of the Chattanooga-Hamilton County Health Department finds that a condition of air pollution exists or is likely to exist, and that it creates any emergency requiring immediate action to protect human health or safety, the mayor with the concurrence of the Bureau Director or the Administrator of the Chattanooga-Hamilton County Health Department shall order persons causing or contributing to the air pollution to reduce or discontinue immediately the emission of air pollutants. Upon issuance of any such order, the Bureau Director shall fix a place and time, not later than twenty-four (24) hours thereafter, for a hearing to be held before the Board. Not more than twenty-four (24) hours after commencement of such hearing, and without adjournment thereafter, the Board shall affirm, modify, or recommend to the mayor that the order be affirmed, modified or set aside. §4-20

14.0. Certification. Any application form, report, or compliance certification submitted pursuant to this permit shall contain a certification, as defined in §4-53, by a responsible official, as defined in §4-53, of truth, accuracy, and completeness. Any certification required by this permit shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. §4-56(d)

15.0. Modifications.

15.1. Administrative amendments to this permit shall be requested and may be granted in accordance with §4-58(d), and only for the reasons set forth therein. The permittee is required to submit an application for an administrative amendment within sixty (60) days after a change of the name of the permittee is registered with the Tennessee Secretary of State.

15.2. Minor permit modifications to this permit shall be requested and may be granted in accordance with §4-58(e)(1) and (2).

15.3. Significant permit modifications to this permit shall be requested and may be granted in accordance with §4-58(e)(3).

15.4. Operational flexibility allows changes within this permitted source without requiring a permit revision, if the changes are not modifications under Title I of the Clean Air Act and the changes do not exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions), provided that:

15.4.1. The permittee provides the U.S. Environmental Protection Agency and the Bureau Director with written notification at least 7 days in advance of the proposed changes; and

15.4.2. For each such change, said written notification shall include a brief description of the change within the permitted source, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.

The permit shield described in §4-57(f) shall not apply to any change made pursuant to operational flexibility. §4-58(i)

15.5. Installation permit application and issuance requirements in §4-8(a) of the Chattanooga Air Pollution Control Ordinance will apply to this permittee and emissions units located at this Part 70 source if modifications to or new construction of a Part 70 source are subject to the following:

15.5.1. § 4-41, Rule 18 (PSD);

15.5.2. § 4-41, Rule 25.3 (VOC rule for new or modified sources);

15.5.3. § 4-41, Rule 23 (Reasonable and proper controls for process gaseous emissions);

15.5.4. Any standard or other requirement pursuant to regulations promulgated under Title 42 U.S.C. §7411 in Title 40 Code of Federal Regulations Part 60; or

15.5.5. Case-by-case determinations made pursuant to Title 42 U.S.C. §7412(g) and (j) as set forth at §4-53 "Applicable requirement" (4); or

15.5.6. Case-by-case determinations made pursuant to §4-41, Rule 27 (Particulate Matter Controls for New Sources and New Modifications after August 29, 1995). §4-50

16.0. Off-Permit Changes.

16.1. An off-permit change is one that:

16.1.1. Is not addressed or prohibited by the permit;

16.1.2. Is not a modification under Title I of the Clean Air Act;

16.1.3. Is not subject to any requirements under Title IV of the Clean Air Act;

- 16.1.4. Meets all applicable requirements, as described in this permit; and
- 16.1.5. Does not violate, or cause or contribute to a violation of, any existing permit term or condition.
- 16.2. A contemporaneous notification shall be submitted to the Bureau Director and to the U.S. Environmental Protection Agency except for changes that qualify as insignificant under Sections 4-56(c)(11) and (c)(12).
- 16.3. The permittee shall keep a record describing off-permit changes made at the Part 70 source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those off-permit changes.
- 16.4. The permit shield described in §4-57(f) of the Chattanooga Air Pollution Control Ordinance shall not apply to any change made pursuant to off-permit changes. §4-58(j)
- 17.0. Permit Reopening. This permit shall be reopened and revised under any of the following circumstances, as set forth in §4-58(f)(1).
- 17.1. Additional applicable requirements become applicable by amendment of the Chattanooga Air Pollution Control Ordinance to this source and the remaining permit term is 3 or more years. Such reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire.
- 17.2. Additional requirements (including excess emissions requirements) become applicable to an affected source as defined in §4-53. Upon approval by the Administrator and amendment of the local air pollution control ordinance, excess emissions offset plans shall be incorporated into the permit.
- 17.3. The Board or Bureau Director or the Administrator determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- 17.4. The Board or Bureau Director or the Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- Proceedings to reopen and issue a revised permit shall follow the same procedures as apply to initial permit issuance, described in §4-58, and shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable, but only after notice of such intent is provided to this permittee by the Bureau Director at least 30 days in advance of the date that permit is to be reopened. A shorter time period may be provided in the case of an emergency. §4-58(f).
- This permittee is also subject to reopening for cause by EPA, as described in §4-58(g). §4-58(g).
- 18.0. Rules Applicable to All Permittee Activities. The following conditions apply to all activities

of this permittee, including insignificant activities:

- 18.1. Nitrogen Oxides. The permittee shall comply with §4-41, Rules 2.4, 2.5 and 2.7, regarding emissions of nitrogen oxides.
- 18.2. Visible Emissions. The permittee shall comply with §4-41, Rule 3, limiting the opacity of visible emissions to twenty (20) percent for an aggregate of five (5) minutes in any one hour period or twenty (20) minutes in any twenty-four hour period. The permittee shall also comply with §4-41, Rule 9, regarding visible emissions from internal combustion engines. In addition, the permittee shall comply with §4-41, Rule 11 limiting opacity from transport and material handling in open air to twenty (20) percent opacity for three (3) minutes in any consecutive sixty-minute period or twenty (20) minutes in a twenty-four hour period. *§4-41, Rule 3, Rule 9 and Rule 11. §4-3(c)(9).*
- 18.3. Certain Fuels. The permittee shall comply with §4-41, Rule 4, regarding importation, sale, transportation, use or consumption of fuels and sulfur content.
- 18.4. Prohibition of Hand-Fired Fuel-Burning Equipment. The permittee shall comply with §4-41, Rule 5, regarding hand-fired fuel-burning equipment.
- 18.5. Open Burning. The permittee is prohibited from conducting open burning except in accordance with §4-41, Rule 6.
- 18.6. Other Fuel-Burning Equipment. The permittee shall comply with §4-41, Rule 8, regarding other fuel-burning equipment.
- 18.7. Process Emissions. The permittee shall comply with §4-41, Rule 10, regarding process emissions.
- 18.8. Odors in Ambient Air. The permittee shall comply with §4-41, Rule 12, regarding emission of objectionable odors. (Local Rule).
- 18.9. Sulfur Oxides. The permittee shall comply with §4-41, Rule 13, regarding emissions of sulfur oxides.
- 18.10. Nuisance. The permittee shall comply with §4-41, Rule 14, concerning discharges from any source of air contaminants or other material which shall cause a nuisance. (Local Rule)
- 18.11. Hazardous Air Pollutants. The permittee shall comply with §4-41, Rule 16.1 through 16.4 regarding emission standards for hazardous air pollutants other than asbestos.
- 18.12. Asbestos Demolition or Renovation. The permittee shall comply with §4-41, Rule 17, when conducting any demolition or renovation activities at the permitted source.
- 18.13. Stack Heights. The permittee shall comply with §4-41, Rule 22, regarding good engineering practices for stack heights.
- 18.14. Particulate Matter Controls for New Sources and New Modifications After August 30, 1995. The permittee shall comply with §4-41, Rule 27 regarding

particulate matter controls for any new source or modification for which installation commences after August 30, 1995.

- 19.0. Stratospheric Ozone and Climate Protection. The permittee is subject to the standards for recycling and emissions reduction promulgated at Title 40 *Code of Federal Regulations* Part 82, Subpart F, including the use of certified technicians only.
- 20.0. Dismantled Equipment. The permittee shall report to the Bureau Director within thirty (30) days after the permanent discontinuance or dismantlement of any equipment or activity covered by this permit.
§4-11(a)
- 21.0. Monitoring. All monitoring and related reporting shall be conducted in compliance with *§4-57(a)(3)(ii)(A)* and (B).
- 22.0. Applicable Requirements. In addition to the Conditions of General Applicability, Conditions Applicable to the Entire Facility, and Emission Unit Special Conditions in this permit, "applicable requirements" as defined in *§4-53* shall apply.
- 23.0. Basis of Permit. This permit is being issued based on the statements made and the information provided in the Part 70 permit application submitted under oath by this source.

CONDITIONS APPLICABLE TO THE ENTIRE FACILITY

- 1.0. Monitoring Reports. In addition to the conditions of general applicability, semiannual compliance monitoring reports are required. The initial report is due within thirty days after the end of the first six-month reporting period following permit issuance. After that, reports will be required at six-month intervals. The following items used for manufacturing at the facility will be included in the compliance report for the preceding rolling twelve-month period:
 - 1.1. Total quantity and VOC content of each VOC-containing coating
 - 1.2. Total quantity of each sand core and/or mold resin component
 - 1.3. Total quantity and sulfur content of coke used at the melting facility
 - 1.4. Total operating hours of the No.10 Unit Sand Reclamation Equipment (E036 and E037) and the No.9 Unit Sand Screening Drum (E023)
 - 1.5. Total quantity of triethylamine
 - 1.6. Total quantity and VOC content of each VOC-containing refractory coating
 - 1.7. Total quantity of iron poured at the facility
 - 1.8. Total quantity of brass poured at the facility
- 2.0. Maintenance Plans and Procedures.
 - 2.1. Within twelve months of permit issuance, United States Pipe and Foundry Company, Inc. shall develop and maintain a preventative maintenance plan and procedures for all major air pollution control equipment. At a minimum, the plans shall include the manufacturer's recommendations and recordkeeping of periodic and/or scheduled maintenance activities for the purposes of complying with such plans and procedures. These plans shall be updated as necessary, maintained on site, and available for inspection by Bureau representative upon request during normal business hours. §4-57
 - 2.2. For the purpose of this Condition 2.0, major air pollution control equipment shall be defined as all air pollution equipment for which monitoring and inspection is required in this Part 70 permit.
- 3.0. Insignificant Activities. The following insignificant activities were certified in the United States Pipe and Foundry Company Part 70 permit application to be in compliance with §4-56(c)(12).
 - 3.1. Surface coating and degreasing operations which do not exceed a combined total usage of more than 60 gallons/month of coatings, thinners, clean-up solvents, and degreasing solvents, at any one location.
 - 3.2. All storage tanks with a capacity of no more than 1,000 gallons (including 55-gallon drums used only for storage) except those emitting any hazardous air pollutant.
 - 3.3. Powder coating operations.
 - 3.4. Emergency generators.
- 4.0. Record Keeping Activities. Records as required under this Part 70 permit shall be kept of the following items for a period of five years:

- 4.1. Total operating hours of the No.10 Unit Sand Reclamation Equipment (E036 and E037) and the No.9 Unit Sand Screening Drum (E023)
 - 4.2. All information required as part of Item 13.5 in the Conditions of General Applicability
 - 4.3. All information required as part of Item 1.0 in the Conditions Applicable to the Entire Facility
 - 4.4. All performance evaluations for emissions control systems in accordance with Condition 7.0 in these Conditions Applicable to the Entire Facility
 - 4.5. All corrective actions taken as a result of the performance evaluations conducted in accordance with Condition 7.0 in these Conditions Applicable to the Entire Facility
 - 4.6. All information entered into logs as required in Condition 7.0 of these Conditions Applicable to the Entire Facility and the Emission Unit Special Conditions of this Part 70 Permit
- 5.0. Sulfur Concentration in Coke. The maximum allowable sulfur content of the coke used at this facility shall not exceed 0.7 percent. *Part 70 Permit Application Request by Permittee*
- 6.0. Visible Emissions from Buildings. Visible emissions from buildings, other than those from stacks or flues, shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 26.20; §4-57
- 7.0. Compliance Monitoring.
- 7.1. Visible Emissions. Daily qualitative visible emissions observations shall be conducted of the following designated emission points while the source is in operation. In the event that visible emissions are observed at or above the designated action level for the individual emission point, a formal visible emission reading shall be conducted in accordance with U.S. EPA Test Method 9, Title 40 *Code of Federal Regulations* Part 60, Appendix A (July 1, 1996), as supplanted by the provisions of Section 4-3(c)(9) of the Chattanooga Air Pollution Control Ordinance. If the opacity of the observed visible emission is determined to be above the designated action level, corrective action shall be initiated.
 - 7.1.1. Each formal visible emissions reading shall be conducted for a minimum of fifteen consecutive minutes by a certified observer.
 - 7.1.2. U.S. Pipe shall maintain a log of all qualitative and formal visible emissions observations in accordance with the following:
 - 7.1.2.1. The qualitative visible emissions observation log shall contain, at a minimum, the date of the observation, the results of the observation, and the initials of the observer.
 - 7.1.2.2. The formal visible emissions reading log shall contain, at a minimum, the date and time the reading was made, the results of the reading, the name of the observer, and the cause and corrective action taken for the observed emissions.

7.1.2.3. U.S. Pipe shall maintain the logs and original visible emissions observations forms for a period of five years after the date of entry.

7.1.3. Visible emissions monitoring shall be conducted on the following emission points:

Stack ID	Description	Action Level	Allowable
S001	Charge Handling	10%	20%
S003/S004	Cupola	10%	20%
S004	Melting Facility Building	5%	5%
S002	Cupola Baghouse	10%	20%
S007	Ductile Treating & No.9 Unit Shakeout Baghouse	10%	20%
S005/S006	Ductile Building Roof Vents and Ventilators	5%	5%
S008-S015	Main Foundry Building Roof Monitors over Units Nos.9, 4, & 10 Pouring, Cooling, & Shakeout	5%	5%
S022	No.9 Unit Secondary Shakeout Baghouse	10%	20%
S059	Cleaning Shed No.1 Ventilators	5%	5%
S019/S060	Cleaning Shed No.2 Roof Eaves	5%	5%
S062	Old Heat Treat Building Wall Fan	5%	5%
S017	Burn-Off Building Roof Vents	5%	5%
S061	Old Bond Storage Building Wall Fan	5%	5%
S037	Sand Reclaimer Fines Baghouse	10%	20%
S038	Sand Reclaimer Classifier Baghouse	10%	20%
S053	Shell Core Building Ventilator	5%	5%
S078	Pattern Shop Cyclone	10%	20%
S081	BCP Cabinet Blast Cleaner	10%	10%
S082	Goff Rotoblast Table Cleaner	10%	10%
SV01	Brass Furnace Baghouse	10%	20%

7.2. Differential Pressure Across Baghouses. Daily monitoring of the differential pressure across the designated baghouses shall be conducted while the equipment is in operation. In the event that the differential pressure is observed outside the designated range, an investigation shall be initiated to determine the nature of the event causing the device to operate outside the designated range. Once the nature of the event has been determined, corrective action shall be initiated.

7.2.1. To establish or revise monitoring parameter ranges, the minor permit modification procedures in Section 4-58(e)(1) of the Chattanooga Air Pollution Control Ordinance shall apply. The analysis used to determine the proposed ranges and documentation of the reasons for the proposed revisions shall be submitted to the Director of the Chattanooga-Hamilton County Air Pollution Control Bureau with the application.

7.2.2. Differential Pressure Monitoring shall be conducted for the control devices listed below. United States Pipe and Foundry Company, Inc. shall establish the operational pressure drop range for these devices and submit the proposed minor modification to this Part 70 Permit to the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau within six months following permit issuance.

CONTROL DEVICE ID.	DESCRIPTION
CD002	Cupola Baghouse
CD003	Ductile Treating & No.9 Unit Shakeout Baghouse
CD004	Large Casting Burn-off Baghouse
CD005	Large Casting Rotoblast Baghouse
CD006	No.9 Unit Secondary Shakeout Baghouse
CD007	Rotoblast Barrels Baghouse
CD008	Monorail & 8' Tableblast Baghouse
CD040	BCP Cabinet Blast Cleaner Baghouse
CD041	Goff Rotoblast Cleaner Baghouse
CDV01	Brass Furnace Baghouse
CDV02	Brass Tumble Blast Baghouse
CDV03	Cut-off Saws & Pedestal Grinders Baghouse
CDV04	Greensand Preparation Baghouse
CDV08	Rotoblast Baghouse
CDV10	Airblast Baghouse

- 7.3. United States Pipe and Foundry Company, Inc. shall maintain a log of all differential pressure readings taken for each device. This log shall contain, at a minimum, the date of the observation, the observed reading, and the initials of the observer. This log shall be maintained for a period of five years after its date of entry.
- 8.0. Emissions Determination. All estimated emissions for this Part 70 Permit shall be the product of the emission factor for a given process and the applicable control efficiencies (including equivalent control efficiencies for wetted sand processes and settling factors). Verification of compliance with the emission limitations of this Part 70 Permit shall be accomplished using the emission calculation method stated above. §4-57; §4-60
- 9.0. Emissions Testing. Emissions testing for this facility, if required by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau, may consist of particulate matter, sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and hazardous air pollutants (HAP) testing, and shall be performed in accordance with the U.S. EPA Test Methods contained in Title 40 *Code of Federal Regulations* Part 60, Appendix A (July 1, 1996), and in accordance with the provisions in Section 4-3 of the Chattanooga Air Pollution Control Ordinance. §4-3; §4-57(c)(1)
- 10.0. Replacement of Equipment. The addition of air pollution control equipment to achieve additional emissions reductions and/or the replacement of air pollution control equipment with air pollution control of equal or greater control efficiency for each pollutant controlled by the original equipment are changes that qualify as operational flexibility with the following exception. The exception is that the air pollution control technology required by any regulation promulgated pursuant to Section 112 of the Clean Air Act codified at Title 40 *Code of Federal Regulations* Part 63, including control measures employed to demonstrate early reductions of hazardous air pollutants, is not eligible for replacement under operational flexibility. Operational flexibility changes are subject to the notification requirements of Paragraph 15.4 in the Conditions of General Applicability.
- 11.0. Usage of Equivalent Materials. United States Pipe and Foundry Company, Inc. may, at its discretion, employ the use of equivalent raw materials in plant operations. Equivalent raw

materials are materials whose emissions of regulated air pollutants from the effected emission unit(s) shall not exceed the emissions allowed under this permit. No later than seven days prior to the change, United States Pipe and Foundry Company, Inc. shall provide to the Chattanooga-Hamilton County Air Pollution Control Bureau an analysis of the projected hourly emission rate of all regulated air pollutants, including hazardous air pollutants, based on this change in the raw materials. *Part 70 Permit Application Request by Permittee*

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT 101 – CHARGE HANDLING

Charge Handling Equipment (E001)

- 1.0. The maximum emissions of particulate matter resulting from charge handling shall be limited to 8.57 pounds per hour and 37.53 tons per year. §4-2; §4-57; §4-60
- 2.0. Visible emissions from material handling shall not exceed an opacity of twenty percent for an aggregate of more than three minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 11.1
- 3.0. Visual emissions inspections of charge handling shall be conducted in accordance with Condition 7.1 in the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 102 – MELTING FACILITY

Cupola (E002)

Cupola Afterburner (CD001)

- 1.0. The maximum emissions of particulate matter from the melting facility shall be limited to 4.95 pounds per hour and 21.68 tons per year. Compliance with this emissions limitation shall be demonstrated by venting all captured cupola emissions through the Cupola baghouse (CD002). This Cupola baghouse shall be in operation at all times during cupola operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-2; §4-57
- 2.0. Operation of the Cupola baghouse (CD002) shall be within the operational pressure drop range determined in accordance with the compliance monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. Preventative maintenance on the Cupola baghouse (CD002) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures described in Condition 2.0 of the Conditions Applicable to the Entire Facility. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 4.0. Visible emissions from the Melting Facility shall not exceed an opacity of twenty percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 3.1
- 5.0. Visual emissions inspections of the melting facility shall be conducted in accordance with Condition 8.0 of the Conditions Applicable to the Entire Facility. §4-57
- 6.0. During startup and shutdown of the cupola, the owner or operator of the melting facility shall make such provisions or modifications as may be necessary so that visible emissions from the startup and shutdown of the cupola shall not exceed an opacity of twenty percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period and so that mass emissions do not exceed 0.020 grains per dry standard cubic foot. §4-41, Rule 3.1, Rule 26.12; §4-57
- 7.0. The maximum emissions of sulfur dioxide (SO₂) from the melting facility shall be limited to 6.55 pounds per hour and 28.66 tons per year. This emissions limitation shall be met by a maximum sulfur content of 0.7 percent by weight in the coke used as fuel in the cupola and by burning only natural gas or No.2 fuel oil as fuel in the cupola afterburner. §4-2; §4-57; *Part 70 Permit Application Request by Permittee*
- 8.0. The maximum allowable emissions of nitrogen oxides (NO_x) from the melting facility shall be 20.02 pounds per hour and 87.69 tons per year. This emissions limitation shall be met by burning only natural gas or No.2 fuel oil as fuel in the cupola afterburner. §4-2; §4-41, Rule 2; §4-57
- 9.0. All combustion emissions limitations shall be met by burning only natural gas or No.2 fuel oil as fuel in the cupola afterburner (CD001). §4-57

- 10.0. Operation of the cupola afterburner (CD001) shall be performed according to the permittee's written plans and procedures and the manufacturer's recommendations. These plans and procedures shall be such as to insure adequate residence time and operating temperature for proper control efficiency. These operational plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 11.0. The operating temperature of the cupola afterburner (CD001) shall be maintained between 1100°F and 1600°F whenever melting operations are conducted. This temperature shall be logged hourly. Continuous monitoring of the operating temperature by strip or circular chart recorder shall satisfy this monitoring requirement. §4-57
- 12.0. Preventative maintenance on the cupola afterburner (CD001) shall be performed accordance to United States Pipe and Foundry Company's written plans and procedures. These maintenance plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57

EMISSION UNIT 103 – HOT METAL TRANSFER

Hot Metal Transfer from Melting (E003)

- 1.0. The maximum emissions of particulate matter resulting from hot metal transfer shall be limited to 2.08 pounds per hour and 9.12 tons per year. *§4-2; §4-57; §4-60*
- 2.0. Visible emissions from material handling shall not exceed an opacity of twenty percent for an aggregate of more than three minutes in any one hour or more than twenty minutes in any twenty-four-hour period. *§4-41, Rule 11.1*

EMISSION UNIT 104 – DESULFURIZATION & SLAGGING

Desulfurization Process (E004)

EMISSION UNIT 105 – INDUCTION HOLDING FURNACES

Hot Metal Transfer to Holding Furnace (E005)

Holding Furnace Preheat (E006)

EMISSION UNIT 106 – DUCTILE TREATING PROCESS

Treating Ladles (E007)

- 1.0. Emission limitations for particulate matter for these Emission Units shall be:
 - 1.1. The maximum emissions of particulate matter from Emission Unit 104 (Desulfurization and Slagging E004) shall be limited to 12.31 pounds per hour and 53.92 tons per year. §4-2; §4-57; §4-60
 - 1.2. The maximum emissions of particulate matter from Emission Unit 105 (Hot Metal Transfer to Holding Furnace E005 and Holding Furnace Preheat E006) shall be limited to 0.67 pounds per hour and 2.93 tons per year. §4-2; §4-57; §4-60
 - 1.3. The maximum emissions of particulate matter from Emission Unit 106 (Ductile Treating Process) shall be limited to 0.756 pounds per hour and 3.312 tons per year. Compliance with this emissions limitation shall be demonstrated by the operation of an emissions capturing system. All captured emissions from ductile treating shall be vented through the Ductile Treating and No.9 Unit Shakeout baghouse (CD003). This baghouse shall be in operation at all times during ductile treating except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-2; §4-57
 - 1.4. Particulate emissions from the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) stack (S007) shall not exceed 12.86 pounds per hour. These baghouse stack emissions consist of the combined emissions from the Ductile Treating Process (Emission Unit 106) and No.9 Unit Shakeout (Emission Unit 114). §4-41, Rule 26.12
- 2.0. Operation of the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. Visual emissions inspections of Ductile Treating Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 4.0. The maximum emissions of sulfur dioxide (SO₂) from the Induction Holding Furnace Pre-heaters shall be limited to 0.0004 pounds per hour and 0.002 tons per year. Compliance with this emission limitation shall be met by burning only natural gas as fuel in the Induction Holding Furnace Pre-heaters. §4-2; §4-57

- 5.0. The maximum emissions of nitrogen oxides (NO_x) from the Induction Holding Furnace Pre-heaters is 0.067 pounds per hour and 0.295 tons per year. Compliance with this emission limitation shall be met by burning only natural gas as fuel in the Induction Holding Furnace Pre-heaters. §4-2; §4-57; §4-60

EMISSION UNIT 107 – No.9 UNIT INOCULATION & SLAGGING

No.9 Unit Inoculation Process (E008)

EMISSION UNIT 108 – No.4 & No.10 UNITS INOCULATION & SLAGGING

No.4 & No.10 Unit Inoculation (E009)

EMISSION UNIT 109 – FITTING PLANT POURING & COOLING OPERATIONS

No.9 Unit Pouring (E010)

No.9 Unit Cooling (E011)

No.4 Unit Pouring & Cooling (E012)

No.10 Unit Pouring & Cooling (E013)

- 1.0. The maximum emissions of particulate matter from No.9 Unit Inoculation and Slagging shall be limited to 12.06 pounds per hour and 52.82 tons per year. §4-2; §4-57; §4-60
- 2.0. The maximum emissions of particulate matter from No.4 & No.10 Units Inoculation & Slagging operations shall be limited to 4.48 pounds per hour and 19.63 tons per year. §4-2; §4-57; §4-60
- 3.0. Combined emissions of particulate matter from Fitting Plant Pouring & Cooling shall not exceed 21.94 pounds per hour and 96.10 tons per year. §4-2; §4-57; §4-60
- 4.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 110 – No.9 UNIT SHAKEOUT

No.9 Unit Shakeout (E014)

- 1.0. The maximum emissions of particulate matter from No.9 Unit Shakeout operations shall be limited to 7.277 pounds per hour and 31.87 tons per year. Compliance with this condition shall be demonstrated by the following:
 - 1.1. At all times during No.9 Unit Shakeout operations, an emissions capturing system shall be in operation to minimize fugitive emissions from this source.
 - 1.2. All captured emissions from the No.9 Unit Shakeout shall be vented through the Ductile Treating and No.9 Shakeout Baghouse (CD003). This capture system and baghouse shall be in operation at all times during shakeout operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
- §4-2; §4-57; §4-60*
- 2.0. Operation of the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) shall be within the operational pressure drop range determined in accordance with the compliance monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. *§4-57*
- 3.0. Particulate emissions from the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) stack (S007) shall not exceed 12.86 pounds per hour. These emissions consist of combined captured emissions from the Ductile Treating Process (Emission Unit 106) and No.9 Unit Shakeout (E014 of Emission Unit 110). *§4-41, Rule 26.12*
- 4.0. Preventative maintenance on the Ductile Treating No.9 Unit Shakeout baghouse (CD003) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. *§4-57*
- 5.0. Visible emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*

EMISSION UNIT 111 – No.4 & No.10 UNITS SHAKEOUT

No.4 & No.10 Units Shakeout (E015)

- 1.0. The maximum emissions of particulate matter from No.4 & No.10 Units Shakeout operations shall be limited to 21.26 pounds per hour and 93.12 tons per year. §4-2; §4-57; §4-60
- 2.0. Visible emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Condition Applicable to the Entire Facility. §4-57

EMISSION UNIT 112 – No.9 UNIT CASTING CLEANING

No.9 Unit Casting Handling (E018)

No.9 Unit Secondary Shakeout (E019)

No.9 Unit Rotoblast Barrels (E020)

No.9 Unit Casting Rotoblast Monorail & Table (E021)

- 1.0. Combined emissions of particulate matter resulting from No.9 Unit Casting Cleaning operations shall not exceed 14.70 pounds per hour and 64.37 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. At all times during No.9 Unit Secondary Shakeout operations, an emissions capturing system shall be in operation to minimize fugitive emissions from this source.
 - 1.2. All captured emissions captured from No.9 Unit Secondary Shakeout shall be vented through the No.9 Unit Secondary Shakeout baghouse (CD006). This baghouse shall be in operation at all times during secondary shakeout operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.3. The maximum allowable particulate emissions from the No.9 Unit Secondary Shakeout baghouse (CD006) stack (S022) shall be 2.571 pounds per hour as calculated based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-2; §4-41, Rule 26.12; §4-57
 - 1.4. All capture emissions from the No.9 Unit Rotoblast Barrels shall be vented through the Pangborn Rotoblast Barrels baghouse (CD007). This baghouse shall be in operation at all times during rotoblast operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.5. The maximum allowable particulate emissions from the No.9 Unit Rotoblast Barrels baghouse (CD007) stack (S023) shall be 4.989 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-2; §4-41, Rule 26.12; §4-57
 - 1.6. All captured emissions from the No.9 Unit Rotoblast Monorail and Table shall be vented through the Pangborn Monorail and Rotoblast Table baghouse (CD008). This baghouse shall be in operation at all times during monorail and rotoblast table operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.7. The maximum allowable particulate emissions from the No.9 Unit Rotoblast Monorail and Table baghouse (CD008) stack (S024) shall be 2.362 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-2; §4-41, Rule 26.12; §4-57
 - 1.8. Preventative maintenance on the No.9 Unit Secondary Shakeout baghouse (CD006), Pangborn Rotoblast Barrels baghouse (CD007), and Pangborn Monorail and Rotoblast Table baghouse (CD008) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures described in Condition 2.0 of the Conditions Applicable to the Entire Facility. These plans and

procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57

- 1.9. Operation of the No.9 Unit Secondary Shakeout baghouse (CD006), Pangborn Rotoblast Barrels baghouse (CD007), and Pangborn Monorail and Rotoblast Table baghouse (CD008) shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 2.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 113 – No.4 & No.10 UNITS CASTING CLEANING

Large Casting Burn-off (E016)

12' Rotoblast Table (E017)

- 1.0. The maximum emissions of particulate matter resulting from No.4 & No.10 Units Casting Cleaning operations shall be limited to 0.62 pounds per hour and 2.71 tons per year. Compliance with this emission limitation shall be achieved by the following:
 - 1.1. At all times during large casting burn-off operations, an emissions capture system shall be in operation to minimize fugitive emissions from this source.
 - 1.2. The exhaust from the large casting burn-off operation shall be vented through the Large Casting Burn-off baghouse (CD004). This baghouse shall be in operation at all times during large casting burn-off operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.3. The maximum allowable particulate emissions from the Large Casting Burn-off baghouse (CD004) stack (S016) shall be 2.571 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate.
 - 1.4. The exhaust from the 12' Rotoblast Table shall be vented through the Pangborn Large Casting Rotoblast baghouse (CD005). This baghouse shall be in operation at all times during operation of the rotoblast table except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.5. The maximum allowable particulate emissions from the Large Casting Rotoblast baghouse (CD005) stack (S018) shall be 1.735 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate.

§4-2; §4-41, Rule 26.12; §4-57

- 2.0. Operation of the Large Casting Burn-off baghouse (CD004) shall be in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. *§4-57*
- 3.0. Visual emissions inspections of the Burn-off Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*
- 4.0. Preventative maintenance of the Large Casting Burnoff baghouse (CD004) and Pangborn Large Casting Rotoblast baghouse (CD005) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. *§4-57*

EMISSION UNIT 114 – GRINDING, FINISHING, & PRIMING

Casting Finishing Area No.1 (E084)
Casting Finishing Area No.2 (E085)
Casting Finishing Area No.3 (E086)
Casting Finishing Area No.4 (E087)
Primer Dip Coating Operation (E088)

- 1.0. The maximum emissions of particulate matter from Grinding, Finishing, and Priming operations shall be limited to 1.76 pounds per hour and 7.70 tons per year. §4-2; §4-57; §4-60
- 2.0. Visual emissions inspections of the Cleaning Sheds No.1, No.2, and No.3, the Old Bond Storage Building, the Old Heat Treat Building, and emission unit stacks shall be conducted in accordance with Condition 8.0 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. The volatile organic compound (VOC) content in all surface coatings used in the Primer Dip Coating Operation shall not exceed 3.5 pounds per gallon of coating, less water and exempt solvents, as delivered to the applicator. §4-2; §4-41, Rule 25.21; §4-57; §4-60
- 4.0. A log of the Primer Dip Coating Operation shall be maintained and shall reflect the date and quantity of coating delivered. §4-57

EMISSION UNIT 115 – CEMENT LINING BUILDING

Cement Mixing and Lining Stations (E089-E095)

Cement Lining Drying Ovens Nos.1, 3, and 4 (E096-E098)

No.1 and No.3 Dip Paint Lines (E099, E102)

Binks Spray Paint Booth (E100)

Large Fittings Paint Booth (E101)

Coating Drying Ovens Nos.1 and 3 (E103-E104)

- 1.0. The maximum emissions of particulate matter resulting from operations in the Cement Lining Building shall be limited to 1.05 pounds per hour and 4.6 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. All captured emissions from the Binks Spray Paint Booth and the Large Fittings Paint Booth shall be vented through their respective dry filter systems (CD034 and CD035). These filter systems shall be in place at all times during paint booth operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.2. A visual inspection of the dry filters shall be conducted no less than one time per day of paint booth operation. A log of the filter inspections shall be maintained on site and available for inspection by Bureau representatives during normal business hours. Saturated filters shall be changed in a timely manner before paint booth operations resume.
 - 1.3. Visible emissions from the paint booth exhaust shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. This opacity limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control. §4-8(e)(2)
 - 1.4. The maximum allowable particulate emissions from the Large Fittings Paint Spray Booth exhaust stack (S068) shall be 0.03 pounds per hour. This emissions limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control. §4-8(e)(2)
 - 1.5. Only natural gas may be burned as fuel in cement lining and coating drying ovens.
§4-2; §4-8; §4-57
- 2.0. Visual emissions inspections of the Cement Lining Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. The maximum emissions of sulfur dioxide (SO₂) from the drying ovens shall be limited to 0.002 pounds per hour and 0.009 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the drying ovens. §4-2; §4-57

- 5.0. The maximum emissions of nitrogen oxides (NO_x) from the drying ovens shall be limited to 0.35 pounds per hour and 1.53 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the drying ovens. §4-2; §4-57
- 6.0. The volatile organic compound (VOC) content of all coatings applied in the Cement Lining Building shall not exceed 3.5 pounds per gallon less water and exempt solvents as delivered to the applicator. A log shall be maintained of the data reflecting the date and quantity of coatings and cleaning solvents used during operations in the Cement Lining Building. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25.21; §4-57; §4-60

EMISSION UNIT 116 – SPECIAL COATINGS OPERATION

Special Coating Spray Booth (E105)

Special Coating Drying Oven (E106)

- 1.0. The maximum emissions of particulate matter resulting from the Special Coatings Operation shall be limited to 0.993 pounds per hour and 4.37 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the Special Coating Spray Booth shall be vented through the dry filter system (CD036). This filter system shall be in place at all times during spray booth operations.
 - 1.2. A visual inspection of the dry filters shall be conducted no less than one time per day of spray booth operation. A log of these filter inspections shall be maintained on site and available for inspection by Bureau representatives during normal business hours. Saturated filters shall be changed in a timely manner before spray booth operations resume.
 - 1.3. Visible emissions from the spray booth exhaust shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period.
 - 1.4. Only natural gas may be burned as fuel in the Special Coatings Drying Oven.

§4-2; §4-57

- 2.0. Visual emissions inspections of the Shipping Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. The maximum emissions of sulfur dioxide (SO₂) resulting from the Special Coating Drying Oven shall be limited to 0.008 pounds per hour and 0.04 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the Special Coating Drying Oven. §4-2; §4-57
- 4.0. The maximum emissions of nitrogen oxides (NO_x) resulting from the Special Coating Drying Oven shall be limited to 0.12 pounds per hour and 0.53 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the Special Coatings Drying. §4-2; §4-57
- 5.0. The volatile organic compounds (VOC) content of all coatings used in the Special Coatings Operation shall not exceed 3.5 pounds per gallon of coating less water and exempt solvents as delivered to the applicator. A log shall be maintained of the data reflecting the amount, date, and type of coatings and solvents used in the Special Coating Operation. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25; §4-57

EMISSION UNIT 117 – No.4 UNIT GREENSAND MOLD SYSTEM

Sand Conveying (E029)

Sand Screening (E030)

Returned Sand Storage Silo (E031)

No.4 Unit Greensand Mullors East and West (E032)

No.4 Unit Mold Making (E033)

Greensand Binder Storage Silo (E034)

Binder Conveying (E035)

- 1.0. The maximum emissions of particulate matter resulting from the No.4 Unit Greensand Mold System shall be limited to 4.48 pounds per hour and 19.03 tons per year. Compliance with this emission limitation shall be achieved by the following:
 - 1.1. The exhaust from the No.4 Unit Greensand Binder Storage Silo loading operation shall be vented through the No.4 Greensand Storage Silo baghouse (CD015). This baghouse shall be in operation at all times during silo loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.2. The maximum allowable particulate emissions from the No.4 Greensand Storage Silo baghouse (CD015) stack (S036) shall be 0.171 pounds per hour.
 - 1.3. The exhaust from sand screening shall be vented through the No.4 Sand Screening baghouse (CD014). This baghouse shall be in operation at all times during sand screening operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.4. The maximum allowable particulate emissions from the No.4 Sand Screening baghouse (CD014) stack (S033) shall be 2.571 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the exhaust flow rate.
 - 1.5. Preventative maintenance on the No.4 Unit Greensand Binder Storage Silo baghouse (CD015) and the No.4 Sand Screen baghouse (CD014) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours.
- §4-2; §4-41, Rule 26.12; §4-57; §4-60
- 2.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 118 – No.10 UNIT AIRSET MOLD SYSTEM

Pneumatic Sand Transporter to Mold Sand Silo (E040)

Sand Heaters (E041)

Sand Mixers (E042)

Mold Forming (E043)

- 1.0. The maximum emissions of particulate matter resulting from the No.10 Unit Airset Mold System shall be limited to 4.31 pounds per hour and 18.85 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from silo loading shall be vented through the No.10 Unit Mold Sand Tank baghouse (CD019). This baghouse shall be in operation at all times during the silo loading process except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-41, Rule 26.12; §4-57
 - 1.2. The maximum allowable particulate emissions from the No.10 Unit Mold Sand Tank baghouse (CD019) stack (S041) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust rate. §4-41, Rule 26.12
 - 1.3. The exhaust from pneumatic transport operations shall be vented through the No.10 Unit Mold Sand Heaters baghouse (CD020). This baghouse shall be in operation at all times during sand transport and sand heater operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-41, Rule 26.12; §4-57
 - 1.4. The maximum allowable particulate emissions from the No.10 Mold Sand Heaters baghouse (CD020) stack (S008B) shall be 0.103 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12
 - 1.5. The exhaust from the No.10 Unit Mold Sand mixers shall be vented through the No.10 Unit Mold Sand Mixer No.1 baghouse (CD021) and No.10 Unit Mold Sand Mixer No.2 baghouse (CD022). These baghouses shall be in operation at all times during sand transport and sand heater operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-41, Rule 26.12; §4-57
- 2.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 119 – No.10 UNIT SAND RECLAMATION

Size Reduction Process (E036)

Classifier Process (E037)

MacCawber Pneumatic Sand Transporter to Reclaimed Sand No.1 Bulk Silo (E038)

MacCawber Pneumatic Sand Transporter to New Sand No.2 Bulk Silo (E039)

- 1.0. The maximum emissions of particulate matter resulting from the No.10 Unit Sand Reclamation process shall be limited to 1.80 pounds per hour and 3.61 tons per year. Compliance with this emission limitation shall be achieved by the following:
 - 1.1. All emissions from the sand reclaimer and size reducer shall be vented through the Fines Baghouse (CD016). This baghouse shall be in operation at all times during sand reclamation and size reduction except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the Fines Baghouse (CD016) stack (S037) shall be 0.38 pounds per hour. This emissions limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.3. All emissions from the classifier shall be vented through the Sand Reclaimer Classifier baghouse (CD017). This baghouse shall be in operation at all times during the clarification process except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.4. The maximum allowable particulate emissions from the Sand Reclaimer Classifier baghouse (CD017) stack (S038) shall be 0.02 pounds per hour. This emissions limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.5. All emissions from the loading of Reclaimed Sand No.1 and No.2 Bulk Silos shall be vented through the Bulk Sand Silo baghouse (CD018). This baghouse shall be in operation at all times during the loading of these silos except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.6. The maximum allowable particulate emissions the Bulk Sand Silo baghouse (CD018) stack (S040) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow. §4-41, Rule 26.12
 - 1.7. Operation of the No.10 Unit Sand Reclamation equipment shall not exceed 4000 hours in any 365 consecutive-day period. This limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Bureau. §4-8(e)(2); §4-57
- 2.0. Operation of the Fines Baghouse (CD016) and the Sand Reclaimer Baghouse (CD017) shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57

- 3.0. Preventative maintenance of these baghouses (CD016-CD018) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 4.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 120 – No.9 UNIT GREENSAND MOLD SYSTEM

Sand Conveying (E022)
Sand Screening Drum (E023)
Sand Return to Storage Silo (E024)
Greensand Mullors A and B (E025)
Herman Mold Machine (E026)
Binder Unloading to Storage Silo (E027)
Binder Conveying (E028)

- 1.0. The maximum emissions of particulate matter resulting from the No.9 Unit Greensand Mold System shall be limited to 12.98 pounds per hour and 54.16 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the sand screening drums shall be vented through the Sand Screening Drum Cyclones (CD009). These cyclones shall be in operation at all times during sand screening operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the Sand Screening Drum cyclones (CD009) stack (S025) shall be 0.75 pounds per hour. This emissions limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.3. Operation of the No.9 Unit Greensand Mold System shall not exceed 4000 hour in any 365-consecutive-day period. This limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.4. The exhaust from the loading of the Greensand Binder Storage Silo shall be vented through the No.9 Unit Greensand Binder Storage Silo bin vent filter (CD010). This bin vent filter shall be in operation at all times during silo loading except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.5. The exhaust from Binder Conveyor A shall be vented through the conveyor baghouse (CD012). This baghouse shall be in operation at all times during binder conveying operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.6. The exhaust from Binder Conveyor B shall be vented through the conveyor baghouse (CD013). This baghouse shall be in operations at all times during binder conveying operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.7. The maximum allowable particulate emissions from each binder conveyor baghouse (CD012-013) shall be 0.457 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57

§4-2; §4-57; §4-60

- 2.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*

EMISSION UNIT 121 – SHELL CORES PROCESS

Shell Core Sand Handling (E082)

Shell Core Heating (E083)

- 1.0. The maximum emissions of particulate matter from the Shell Cores Process shall be limited to 1.12 pounds per hour and 4.91 tons per year. *§4-41, Rule 10; §4-57; §4-60*
- 2.0. Visual emissions inspections of the Shell Cores Building and emission unit stacks shall be conducted in accordance with Condition 8.0 of the Conditions Applicable to the Entire Facility. *§4-57*
- 3.0. The maximum emissions of sulfur dioxide (SO₂) resulting from Shell Core Heating operations shall be limited to 0.001 pounds per hour and 0.005 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the shell core sand heater. *§4-2; §4-57*
- 4.0. The maximum emissions of nitrogen oxides (NO_x) resulting from Shell Core Heating operations shall be limited to 0.185 pounds per hour and 0.81 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the shell core sand heater. *§4-41, Rule 2; §4-57*

EMISSION UNIT 122 – AIRSET CORE SYSTEM

Airset Binder Bulk Storage Tank (E046)

Airset Acid Bulk Storage Tank (E048)

Pneumatic Conveying for Airset Core Sand Silo (E050)

Sand Heater (E051)

Sand Mixer (E052)

Core Forming (E053)

- 1.0. The maximum emissions of particulate matter resulting from the Airset Core System shall be limited to 5.314 pounds per hour and 23.28 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from loading of the airset sand silo shall be vented through the Airset Core Sand Tank baghouse (CD023). This baghouse shall be in operation at all times during the airset sand silo loading process except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.2. The exhaust from the sand heating process shall be vented through the Airset Core Heater cyclone (CD024) and Airset Core Sand Tank baghouse (CD023). This cyclone and baghouse shall be in operation at all times during the sand heating process except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.3. The maximum allowable particulate emissions from the Airset Core Sand Tank baghouse (CD023) stack (S045) shall be 0.171 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate.

§4-2; §4-41, Rule 26.12; §4-57

- 2.0. Preventative maintenance for this baghouse and cyclone (CD023 and CD024) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business. *§4-57*
- 3.0. Visual emissions inspections of the Airset Core Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*

EMISSION UNIT 123 – ISOCURE CORE SYSTEM

Isocure Part 1 Bulk Storage Tank (E054)

Isocure Part 2 Bulk Storage Tank (E057)

No.3 Bulk Sand Silo (E060)

No.3 and No.4 Isocure Sand Silo (E061)

No.5 Isocure Sand Silo (E062)

No.3, No.4, & No.5 Isocure Sand Heaters (E063-E065)

No.3, No.4, and No.5 Sand Mixers (E066-E068)

Isocure Machines No.3, No.4, and No.5 (E069-E071)

- 1.0. The maximum emissions of particulate matter from the Isocure Core System shall be limited to 1.26 pounds per hour and 5.52 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the loading of the No.3 Bulk Sand Silo (E060) shall be vented through the Farr Bulk Sand Silo baghouse (CD025). This baghouse shall be in operation at all times during silo loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.2. The maximum allowable particulate emissions from the Bulk Sand Silo baghouse (CD025) stack (S048) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. These stack emissions are combined emissions from Bulk Sand Silo loading (E060 of Emission Unit 123) and Pepset Sand Heater Operation (E077 of Emission Unit 124).
§4-41, Rule 26.12
 - 1.3. The exhaust from the loading of the No.3 and No.4 Isocure Sand Silo (E061) shall be vented through the No.3 and No.4 Isocure Sand Silo baghouse (CD026). This baghouse shall be in operation at all times during sand loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.4. The maximum allowable particulate emissions from the No.3 & No.4 Isocure Sand Silo baghouse (CD026) stack (S049) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. *§4-41, Rule 26.12*
 - 1.5. The exhaust from the loading of the No.5 Isocure Sand Silo shall be vented through the No.5 Isocure Sand Silo baghouse (CD027). This baghouse shall be in operation at all times during sand loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.6. All emissions from the sand heaters (E063-E065) shall be vented through the Sand Heaters cyclones (CD028-030) and the Sand Silo baghouses (CD026-027). These cyclones and baghouse shall be in operation at all times during sand heater operation except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.7. The maximum allowable particulate emissions from the No.5 Isocure Sand Silo baghouse (CD027) stack (S050) shall be 0.17 pounds per hour based on a grain

loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12

These limitations and conditions have been determined to be reasonable and proper by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 27; §4-57

- 2.0. Preventative maintenance on these control devices (CD025-CD030) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 3.0. Visual emissions inspections of the Shell Core Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 4.0. The maximum allowable emissions of volatile organic compounds (VOC) resulting from Isocure Core Machine Nos. 3, 4, and 5 shall be 28.67 tons per rolling twelve months. Compliance with this emission limitation shall be demonstrated by the following:
 - 4.1. The total usage of isocure core resins shall not exceed 750,000 pounds in any 365 consecutive-day period.
 - 4.2. The maximum allowable volatile organic compound content for Part I resins used in the isocure core machines shall be 35 percent by weight as determined by U.S. EPA Test Method 24, Title 40 *Code of Federal Regulations* Part 60, Appendix A (July 1, 1996) and in accordance with the provisions of §4-3 of the Chattanooga Air Pollution Control Ordinance.
 - 4.3. The maximum allowable volatile organic compound content for Part II resins used in the isocure core machines shall be 25 percent by weight as determined by U.S. EPA Test Method 24, Title 40 *Code of Federal Regulations* Part 60, Appendix A (July 1, 1996) and in accordance with §4-3 of the Chattanooga Air Pollution Control Ordinance.
 - 4.4. The total usage of triethylamine shall not exceed 45,000 pounds in any 365 consecutive-day period.
 - 4.5. Emissions of triethylamine from the isocure process shall be vented through the packed tower acid scrubbers. An operating pH for the acid scrubbers shall be maintained at or below 5.0 as measured at the scrubber drain. This pH reading shall be recorded daily in a log. This log shall be maintained on site and available for inspection by Bureau representative upon request during normal business hours.

This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25.3

- 5.0. The owner or operator of this source shall utilize appropriate methods and technology to control onsite gaseous emissions so as to prevent odors from these emissions from being detected beyond the plant property boundary. This condition has been determined to be reasonable and proper by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. *§4-41, Rule 12 (Local Only), Rule 23*

EMISSION UNIT 124 – PEPSET CORE MAKING

Pepset Binder Bulk Storage Tank (E073)

Pepset Acid Bulk Storage Tank (E075)

Pepset Sand Heater (E077)

Sand Mixer (E078)

Core Forming (E079)

- 1.0. The maximum emissions of particulate matter resulting from the pepset core making process shall be limited to 0.41 pounds per hour and 1.81 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the sand heater shall be vented through the Pepset Sand Heater cyclone (CD033) and the No. 3 Bulk Sand Silo baghouse (CD025). This cyclone and baghouse shall be in operation at all times during the pepset core making process except in accordance with Condition 13.0 of the Conditions of General Applicability.
§4-57
 - 1.2. The maximum allowable particulate emissions from the No.3 Bulk Sand Silo baghouse (CD025) stack (S048) shall be 0.01 pounds per hour. §4-2; §4-57
- 2.0. Visual emissions inspections of the Shell Core Building and emission unit stacks shall be conducted in accordance with Condition 8.0 of the Condition Applicable to the Entire Facility. §4-57
- 3.0. Preventative maintenance for the Pepset Sand Heater cyclone (CD033) and the No.3 Bulk Sand Silo baghouse (CD025) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours.
§4-57

EMISSION UNIT 125 – REFRACTORY COATING OPERATIONS

Refractory Coating (E072)

Flame-off (E081)

- 1.0. The maximum emissions of particulate matter resulting from Refractory Coating Flame-off operations (E081) shall be limited to 0.0003 pounds per hour and 0.002 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the flame-off burner. §4-2; §4-57; §4-60
- 2.0. The maximum emissions of sulfur dioxide (SO₂) resulting from Refractory Coating Flame-off operations (E081) shall be limited to 0.0003 pounds per hour and 0.002 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the flame-off burner. §4-2; §4-57; §4-60
- 3.0. The maximum emissions of nitrogen oxides (NO_x) resulting from Refractory Coating Flame-off operations (E081) shall be limited to 0.057 pounds per hour and 0.248 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the flame-off burner. §4-2; §4-57; §4-60
- 4.0. The maximum allowable emissions of volatile organic compounds (VOC) resulting from Refractory Coating operations (E072) shall be 24.74 pounds per hour and 49.49 tons per rolling twelve months. Compliance with this emission limitation shall be demonstrate by multiplying the amount of isopropanol used in the Refractory Coating operation by the emission factor of 2000 pounds of VOC per ton of isopropanol less 50 percent control efficiency for molds cores subject to the flame-off process. §4-41, Rule 25; §4-57

EMISSION UNIT 126 – PACKAGING AND SHIPPING AREA

Asphalt Coating Bulk Storage Tank No.1 (E107)

Asphalt Coating Bulk Storage Tank No.2 (E108)

Touchup Coating (E109)

- 1.0. The maximum allowable emissions of particulate matter resulting from touchup coating operations shall not exceed 0.51 pounds per hour per spray gun. Compliance with this emission limitation shall be met by a zero percent opacity limitation for touchup coating operations. *§4-41, Rule 10; §4-57*
- 2.0. The volatile organic compound (VOC) content of all coatings used in the packaging and shipping area shall not exceed 3.5 pounds per gallon of coating less water and exempt solvents as delivered to the applicator. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. *§4-41, Rule 25.2; §4-57*
- 3.0. A log shall be maintained of the data reflecting the amount, date, and type of coatings and solvents used in the packaging and shipping area. *§4-57*

EMISSION UNIT 127 – ANCILLARY FITTING PLANT OPERATIONS

Cupola Baghouse Dust Solidification (E110)

Cupola Drying (E111)

Pattern Shop (E113)

Ladle Pre-heat (E114)

Bathhouse Boiler (E115)

Asphalt Hot Oil Heater (E116)

- 1.0. The maximum allowable emissions of particulate matter resulting from Cupola Baghouse Dust Solidification operations shall be 0.003 pounds per hour and 0.009 tons per year. This emission limitation shall be met by the following:
 - 1.1. The exhaust from the pneumatic conveying of cupola dust in the Cupola Baghouse Dust Solidification process shall be vented through the Cupola Baghouse Dust Solidification baghouse (CD037). This baghouse shall be in operation at all times during Cupola Baghouse Dust Solidification operations.
 - 1.2. Visible emissions from Cupola Baghouse Dust Solidification shall not exceed ten percent for an aggregate of more than five minutes in any one hour or more that twenty minutes in any twenty-four-hour period.
 - 1.3. Visual emissions inspection of the emission unit stacks shall be conducted in accordance with Condition 8.0 of the Conditions Applicable to the Entire Facility.

This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57

- 2.0. The maximum combined emissions of particulate matter from these combustion sources (E111, E114, E115, & E116) shall be limited to 0.051 pounds per hour and 0.192 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in cupola drying operations. §4-2; §4-41, Rule 8.2; §4-57
- 3.0. An emission capture system shall be in operation at all times during Pattern Shop (E113) operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
- 4.0. All captured emissions from the pattern shop equipment shall be vented through the pattern shop cyclone (CD039). This cyclone shall be in operation at all times during pattern shop operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
- 5.0. The maximum allowable emissions of particulate matter from the pattern shop cyclone (CD039) stack (S078) shall be 3.86 pounds per hour and 16.9 tons per year based on a grain loading of 0.030 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.18; §4-57
- 6.0. Visual emissions inspection of the emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

- 7.0. The maximum combined emissions of sulfur dioxide (SO₂) resulting from these combustion sources (E111, E114, E115, & E116) shall be limited to 0.003 pounds per hour and 0.011 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. §4-2; §4-57
- 8.0. The maximum combined emissions of nitrogen oxides (NO_x) resulting from these combustion sources (E111, E114, E115, & E116) shall be limited to 0.466 pounds per hour and 1.76 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. §4-2; §4-57

EMISSION UNIT 128 – FUSION BONDED EPOXY PROCESS

BCP Cabinet Blast Cleaner (E117)
Goff Rotoblast Table Cleaner (E118)
GLA Burn-off Oven with Afterburner (E123)

- 1.0. The maximum emissions of particulate matter from the BCP Cabinet Blast Cleaner (E117) and Goff Rotoblast Table Cleaner (E118) operations shall be limited to 0.65 pounds per hour and 2.85 tons per year. Compliance with this emissions limitation shall be met by the following:
 - 1.1. All captured emissions from the BCP Cabinet Blast Cleaner (E117) shall be vented through the cabinet blast cleaner baghouse (CD040). This baghouse shall be in operation at all times during cabinet blast cleaner operation except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.2. All captured emissions from the Goff Rotoblast Table Cleaner (E118) shall be vented through the rotoblast table cleaner baghouse (CD041). This baghouse shall be in operation at all times during rotoblast table cleaner operation except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.3. Operation of these baghouses shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility.

§4-2; §4-41, Rule 27.3; §4-57; §4-60

- 2.0. The maximum emissions of particulate matter from the GLA Burn-off Oven (E123) shall be limited to 0.10 pounds per hour and 0.438 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. This condition has been determined to be reasonable and proper control by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. *§4-2; §4-41, Rule 27.3; §4-57*
- 3.0. The maximum emissions of nitrogen oxides (NO_x) from the GLA Burn-off Oven and afterburner shall be limited to 0.60 pounds per hour and 2.63 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. *§4-41, Rule 2; §4-57*
- 4.0. The maximum emissions of sulfur dioxide (SO₂) from the GLA Burn-off Oven and afterburner shall be limited to 0.001 pound per hour and 0.0044 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. *§4-2; §4-57*
- 5.0. The maximum emissions of volatile organic compounds (VOC) from the GLA Burn-off Oven and afterburner shall be limited to 0.01 pounds per hour and 0.044 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 5.1. Only natural gas shall be burned as fuel in this equipment. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the

Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25.3; §4-57

- 5.2. All emissions resulting from the pyrolysis of epoxy coatings shall be vented through the GLA afterburner. This afterburner shall be in operation at all times during GLA oven operations. Operation of this oven and afterburner shall be in accordance with United States Pipe and Foundry Company, Inc.'s written plans and procedures, which shall include the manufacturer's recommendations. This condition has been determined to be reasonable and proper control by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 23
- 6.0. Visible emissions inspection of the BCP Cabinet Blast Cleaner (E117), Goff Rotoblast Table Cleaner (E118), GLA Burn-off Oven (E123) and the associated stacks (S081, S082, and S058, respectively) shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 7.0. Visible emissions from the BCP Cabinet Blast Cleaner (E117), Goff Rotoblast Table Cleaner (E118), GLA Burn-off Oven (E123) and the associated stacks (S081, S082, and S058, respectively) shall not exceed an opacity of ten percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. This condition has been determined to be reasonable and proper control by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 27.3; §4-57

EMISSION UNIT 201 – BRASS MELTING OPERATION

Electric Induction Furnaces No.1 and No.2 (EV001-EV002)

Hot Metal Transfer (EV003)

Ladle Preheat (EV004)

Electric Induction Furnaces No.3 and No.4 (EV049-EV050)

- 1.0. The maximum allowable emissions of particulate matter from the Brass Melting Operation shall be 2.57 pounds per hour and 11.26 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. All captured emissions from the electric induction furnaces shall be vented through the Brass Furnace baghouse (CDV01). This baghouse shall be in operation at all times during brass melting operations. §4-57
 - 1.2. Particulate emissions from the Brass Furnace baghouse (CDV01) stack (SV01) shall not exceed 2.57 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57
 - 1.3. The maximum hourly emissions of particulate matter from hot metal transfer operations shall be limited to 0.02 pounds per hour. §4-2; §4-57
 - 1.4. Visible emissions from hot metal transfer operations shall not exceed an opacity of twenty percent from an aggregate of more than three minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 11.1
 - 1.5. The maximum hourly emissions of particulate matter from the ladle pre-heater shall be limited to 0.02 pounds per hour. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the ladle pre-heater. §4-2; §4-57
- 2.0. Operation of the Brass Furnace baghouse (CDV01) shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 4.0. Brass melting at this facility shall not exceed 2553 tons in any 365-consecutive-day period. §4-57; Part 70 Application
- 5.0. The maximum emissions of sulfur dioxide (SO₂) from the ladle pre-heater shall be limited to 0.0003 pounds per hour and 0.0002 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the ladle pre-heater. §4-2; §4-57
- 6.0. The maximum emissions of nitrogen oxides (NO_x) from the ladle pre-heater shall be limited to 0.056 pounds per hour and 0.247 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the ladle pre-heater. §4-2; §4-57

EMISSION UNIT 202 – VALVE PLANT POURING, COOLING, SHAKEOUT

Shellsand Mold Pouring (EV005)

Greensand Mold Pouring (EV006)

Greensand Shakeout (EV007)

- 1.0. The maximum allowable emissions of particulate matter resulting from Pouring, Cooling, and Shakeout operations shall be 11.74 pounds per hour and 51.43 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The maximum allowable particulate emissions from the Shellsand Mold Pouring stack (SV03) shall be 2.74 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57
 - 1.2. The maximum allowable particulate emissions from the Greensand Shakeout stack (SV05) shall be 8.93 pounds per hour. §4-41, Rule 10; §4-57
- 2.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 8.0 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 203 – BRASS CLEANING OPERATION

Tumble Blast Operations (EV008-EV009)

Cut-off and Grinding Operations (EV010-EV012)

- 1.0. The maximum allowable emissions of particulate matter from brass cleaning operations shall be 1.32 pounds per hour and 5.79 tons per year. Compliance with this emissions limitation shall be demonstrated by the following:
 - 1.1. All captured emissions from tumble blast operation shall be vented through the Tumble Blast baghouse (CDV02). This baghouse shall be in operation at all times during tumble blast operations. §4-57
 - 1.2. The maximum allowable particulate emissions from the Tumble Blast baghouse (CDV02) stack (SV06) shall be 0.55 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57
 - 1.3. All emissions from the cut-off and grinding operations shall be vented through the Cut-off Saw and Pedestal Grinder baghouse (CDV03). This baghouse shall be in operation at all times during cut-off and grinding operations. §4-57
 - 1.4. The maximum allowable particulate emissions from the Cut-off Saw and Pedestal Grinder baghouse (CDV03) stack (SV07) shall be 0.77 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57
- 2.0. Operation of the Tumble Blast baghouse (CDV02) and the Saw and Pedestal Grinder baghouse (CDV03) shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 204 – VALVE PLANT MOLD MAKING OPERATIONS

Greensand Mullor (EV013)
Greensand Mold Forming (EV014)
Shellsand Sand Handling (EV015)
Shell Mold Curing (EV016)
Cooling & Pasting Station (EV017)

- 1.0. The maximum emissions of particulate matter resulting Valve Plant Mold Making Operations shall be limited to 0.376 pounds per hour and 1.65 tons per year. Compliance with this emissions limitation shall be demonstrated by the following:
 - 1.1. All captured emissions from the Greensand Mullor shall be vented through the Greensand Preparation baghouse (CDV04). This baghouse shall be in operation at all times during greensand mulling operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the Greensand Preparation baghouse (CDV04) stack (SV08) shall be 0.6 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12
 - 1.3. The maximum emissions of particulate matter from Shell Mold Curing operations shall be limited to 0.005 pounds per hour. Compliance with this emission limitation shall be demonstrated by burning only natural gas in the heat-curing process. §4-2; §4-57
 - 1.4. The exhaust from the Cooling and Pasting Station shall be vented through the Shell Molding baghouse (CDV05). This baghouse shall be in operation at all times during mold cooling and pasting operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.5. The maximum hourly emission rate for particulate matter from the Shell Molding baghouse (CDV05) stack (SV10) shall be limited to 0.003 pounds per hour. §4-2; §4-57
- 2.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. The maximum emissions of sulfur dioxide (SO₂) resulting from Valve Plant Mold Making operations shall be limited to 0.001 pounds per hour and 0.004 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the heat-curing equipment. §4-2; §4-57

- 4.0. The maximum emissions of nitrogen oxides (NO_x) resulting from Valve Plant Mold Making operations shall be limited to 0.135 pounds per hour and 0.592 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the heat-curing equipment. §4-2; §4-57

EMISSION UNIT 205 – VALVE PLANT CORE MAKING

Shell Core Sand Handling (EV018)

Shell Core Sand Curing (EV019)

Airset Core Sand Mixer (EV020)

Airset Core Forming (EV021)

- 1.0. The maximum emissions of particulate matter resulting from Valve Plant Core Making Operations shall be limited to 0.079 pounds per hour and 0.346 tons per year. §4-2; §4-57; §4-60
- 2.0. Visible emissions from the Brass Foundry Building shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 26.12
- 3.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 4.0. The maximum emissions of sulfur dioxide (SO₂) resulting from Valve Plant Core Making Operations shall be limited to 0.0004 pounds per hour and 0.0018 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the Sand Curing equipment. §4-2; §4-57
- 5.0. The maximum emissions of nitrogen oxides (NO_x) resulting from Valve Plant Core Making Operations shall be limited to 0.067 pounds per hour and 0.295 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the Sand Curing equipment. §4-2; §4-57

EMISSION UNIT 206 – VALVE & HYDRANT PRODUCTION

Small Valve Paint Booth (EV022)

Large Valve Touchup Coating Operation (EV023)

Hydrant Production Paint Booth (EV024)

- 1.0. The maximum emissions of particulate matter resulting from valve product operations shall be limited to 0.47 pounds per hour and 2.03 tons per year. Compliance with this emissions limitation shall be demonstrated by the following:
 - 1.1. All emissions from the Small Valve Paint Booth shall vented through the dry filter assembly (CDV06). These dry filters shall be in place and the exhaust fan operating at all times during this surface coating operation.
 - 1.2. The maximum hourly stack emissions of particulate matter from the Small Valve Paint Booth stack (SV11) shall be limited to 0.006 pounds per hour.
 - 1.3. All emissions from the Hydrant Production Paint Booth shall be vented through the dry filter assembly (CDV07). These dry filters shall be in place and the exhaust fan shall be operating at all times during this surface coating operation.
 - 1.4. The maximum hourly stack emissions of particulate matter from the Hydrant Production Paint Booth stack (SV13) shall be limited to 0.022 pounds per hour.
 - 1.5. Visible emissions from the paint booth exhaust stacks shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period.
 - 1.6. A visual inspection of the dry filters shall be conducted no less than one time per day of paint booth operation. A log of the filter inspections shall be maintained on site and available for inspection by Bureau representative during normal business hours. Saturated filters shall be changed in a timely manner before paint booth operations resume.

§4-2; §4-57; §4-60
- 2.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*
- 3.0. The volatile organic compound (VOC) content for all coatings used in valve and hydrant production shall not exceed 3.5 pounds per gallon of coating, less water and exempt solvents, as delivered to the applicator. A log shall be maintained containing the date and amount of coatings applied in these surface coating operations. This log shall be maintained on the premises and available for inspection upon request by Bureau representatives during normal business hours. These records shall be kept for a period of two years after the date of entry.
§4-2; §4-41, Rule 25.21; §4-57

EMISSION UNIT 207 – RESILIENT SEAT VALVE PRODUCTION

Pangborn Rotoblast Cleaner (EV025)

Pangborn Airblast Cleaner (EV026)

- 1.0. The maximum emissions of particulate matter resulting from Resilient Seat Valve Production shall be limited to 0.99 pounds per hour and 4.34 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the Pangborn Rotoblast Cleaner shall be vented through the RS Valve Cleaning baghouse (CDV08). This baghouse shall be in operation at all times during rotoblast cleaner operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the RS Valve Cleaning baghouse (CDV08) stack (SV14) shall be 0.219 pounds per hour based on a grain loading of 0.053 grains per dry standard cubic foot and the reported exhaust flow rate. This emission limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.3. The maximum allowable particulate emissions from the Airblast baghouse (CDV10) stack (SV15) shall be 0.771 pounds per hour based on a grain-loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57
- 2.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 208 – ANCILLARY VALVE & HYDRANT PLANT OPERATIONS

Lead Melting Kettles (EV031-EV032)
Resilient Seat Valve Burn-off Oven (EV033)
Hot Water Heaters No.1 & No.2 (EV034-EV035)
Special Coatings Paint Booth (EV036)

- 1.0. The maximum emissions of particulate matter from these ancillary operations shall be limited to 0.52 pounds per hour and 2.28 tons per year. Compliance with this emissions limitation shall be demonstrated by the following:
 - 1.1. The maximum allowable emissions of particulate matter from lead kettle heating shall be 0.17 pounds per hour. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the kettle burners. §4-41, Rule 8.1
 - 1.2. Emissions of particulate matter from the Resilient Seat Valve Burn-off Oven stack (SV21) shall not exceed 0.345 pounds per hour. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this oven. §4-41, Rule 8.1
 - 1.3. Hourly emissions of particulate matter from the Special Coatings Paint Booth stack (SV24) shall not exceed 0.002 pounds per hour. Compliance with this emission limitation shall be met by the following:
 - 1.3.1. All emissions from the Special Coatings Paint Booth shall be vented through the dry filter assembly (CDV12). These dry filters shall be in place and the exhaust fan operating at all times during booth operation.
 - 1.3.2. A visual inspection of the dry filters shall be conducted no less than one time per day of paint booth operation. A log of the filter inspections shall be maintained on site and available for inspection by Bureau representatives during normal business hours. Saturated filters shall be changed in a timely manner before paint booth operations resume.
 - 1.3.3. Visible emissions from the Special Coatings Paint Booth stack (SV24) shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period.

§4-2; §4-57; Part 70 Permit Application Request by Permittee

- 2.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. The maximum emissions of sulfur dioxide (SO₂) shall be limited to 0.001 pounds per hour and 0.004 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in these combustion sources. §4-2; §4-57

- 4.0. The maximum emissions of nitrogen oxides (NO_x) shall be limited to 0.124 pounds per hour and 0.543 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in these combustion sources. §4-2; §4-57
- 5.0. The volatile organic compound (VOC) content for all coatings used in the special coatings paint booth shall not exceed 3.5 pounds per gallon of coating, less water and exempt solvents, as delivered to the applicator. A log shall be maintained containing the date and amount of coatings applied in these surface coating operations. §4-41, Rule 25.21; §4-57

EMISSION UNIT 301 – SOLID WASTE LANDFILL

- 1.0. Visible emissions from material-handling operations at the solid waste landfill shall not exceed an opacity of ten percent for an aggregate of more than fifteen minutes in any one hour or more than sixty minutes in any twenty-four-hour period. *§4-41, Rule 26.11; §4-57*
- 2.0. Visible emissions, other than those from material handling operations shall not exceed an opacity of ten percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. *§4-41, Rule 3.1; §4-57*

PERMIT SHIELD

At the request of the responsible official who signed and certified to the Part 70 permit application, compliance with the conditions of this permit shall be deemed compliance with any "applicable requirements", as defined in §4-53 of the Chattanooga Air Pollution Control Ordinance, as of the date of permit issuance that are included and specifically identified in this permit. This permit shield does not apply to past applicability determinations made by the facility governing major new source review.

No other requirements are identified as applicable as of the date of issuance of this permit to this permittee, but the Director reserves the right to reopen this permit pursuant to Condition 15.0 of the Conditions of General Applicability and to modify this permit pursuant to Condition 17.0 of the Conditions of General Applicability. This permit shield does not alter or affect the following:

- (a) The provisions of Title 42 U.S.C. §7603 (emergency orders), including the authority of the Administrator or of the Chattanooga-Hamilton County Air Pollution Control Board or Bureau Director thereunder;
- (b) The liability of a permittee of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- (c) The applicable requirements of the acid rain program promulgated under Title IV of the Clean Air Act consistent with Title 42 U.S.C. 7651g.(a);
- (d) The ability of EPA to obtain information from a source pursuant to Title 42 U.S.C. §7414, or of the Board or Bureau Director to obtain information from a source pursuant to the Chattanooga Air Pollution Control Ordinance or any other provision of local, state or federal law; and §4-57(f)
- (e) The right of any person to damages or other relief on account of injury to persons or property and to maintain any action or other appropriate proceeding therefor; nor does it abridge, limit, impair, create, enlarge or otherwise affect substantively or procedurally this right.
§4-5(1)

Mr. John Pleasant



UNITED STATES PIPE AND FOUNDRY COMPANY

Chattanooga Valve & Fittings Plant
P.O. Drawer 311
CHATTANOOGA, TENNESSEE 37401

April 9, 1996

Mr. Mark Stone
Chattanooga-Hamilton County
Air Pollution Control Bureau
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Dear Mark:

Enclosed are applications for permits for three separate casting finishing operations. Each application includes a brief narrative of operations included. Also enclosed is a table, with notes, that depicts how the process weight rate is divided among the casting finishing operations.

In the narrative I list the number of grinders for each operation. These numbers are current as of this submittal. Would a future change in the number of grinders constitute a change in the permit?

If you have any questions, do not hesitate to call me.

Very truly yours,

Dennis Urbaniak

Dennis Urbaniak
Project Engineer

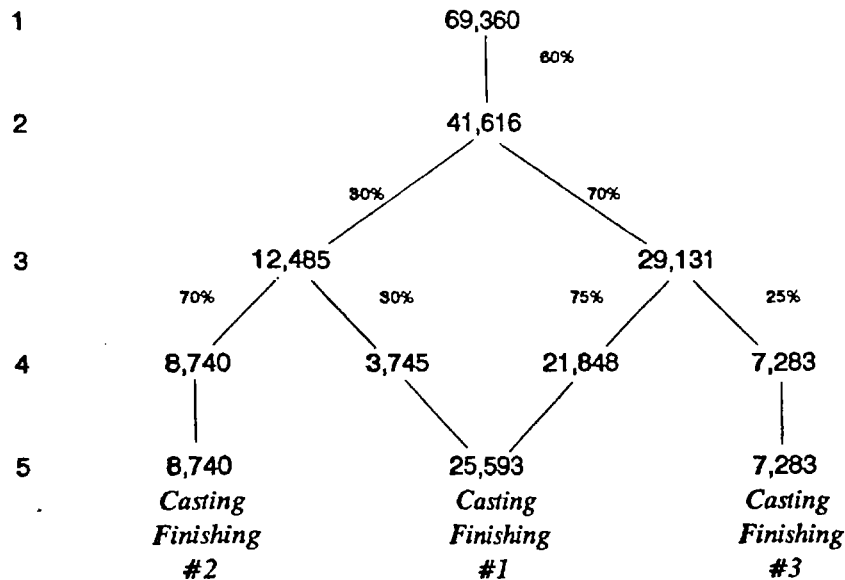
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UNITED STATES PIPE AND FOUNDRY COMPANY

Chattanooga Valve & Fittings Plant
P.O. Drawer 311
CHATTANOOGA, TENNESSEE 37401



- At 10 hrs/day, 5 days/wk, 48 wks/yr, and 28.9 tons/hr, the output of the cupola is 69,360 tons per year. (In over 12 years the actual melted tons have not exceeded 55,000 tons/yr.)
- Of the 69,360 tons, 40% is in gates and risers and therefore does not go through casting finishing operations. (In over 12 years our actual production has not exceeded 33,000 tons/yr.)
- Of the 41,616 tons, 30% goes to #4 & #10 Units and 70% goes to #9 Unit.
- Of the 12,845 tons on #4 & #10 Units, 30% of this goes to #1 Cleaning Shed for grinding.
Of the 29,131 tons on #9 Unit, 25% goes to Casting Finishing operation #3.
- The totals for the casting finishing operations are:

Casting Finishing	Tons/Yr	Tons/Hr	Lbs/Hr
#1	25,593	10.24	20,474
#2	8,740	3.50	6,992
#3	7,283	2.91	5,826
TOTALS	41,616	16.65	33,292



UNITED STATES PIPE AND FOUNDRY COMPANY

Chattanooga Valve & Fittings Plant
P.O. Drawer 311
CHATTANOOGA, TENNESSEE 37401

April 9, 1996

Casting Finishing #1 covers grinding operations in the buildings we call #1 and #3 Cleaning Sheds. These operations include:

- 53 hand grinders
- 3 swing frame (wheel) grinders
- 3 swing frame (belt) grinders
- 2 pedestal grinders.

The castings that are processed in these areas range in size from the smallest castings we make (on #9 Unit) to 24" castings, some of which are cast on #9 Unit and others cast on #4 Unit. Typical operations on the smaller castings would be: the castings are placed on a pallet in front of a grinding booth, the employee transfers it to his grinding table, performs all necessary grinding, and puts it on a conveyor belt for packaging by others. We estimate the process weight rate in this area to be 20,474 lbs/hr.

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401-0311
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT ST., CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:

☐ Installation Permit

☒ Certificate of Operation (Initial Application)

Temp. Operating Permit No.

☐ Temporary Operating Permit☐ Certificate of Operation (Renewal)

Instal. Permit No.

Certificate of Operation No.

8. Type of equipment for which application is made:

☒ Process Equipment (Submit E010 or Form E010A; ☐ Already Submitted)☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)

☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)

☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)

9. The following forms are filed with this application: E010, E106

10. Equipment Name: Casting Finishing #1

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:

A) Increase, decrease, or alter process materials, fuel, refuse type, etc.

☐ YES☒ NO

B) Increase, decrease, or alter emissions or emission points

☐ YES☒ NO

(If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12.

Process Weight, lb/hr, (Item 6 on Form E010). Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

20,474 lbs/hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: _____

Signature

Title: Plant EngineerDate: April 8, 1996

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

PROCESS EQUIPMENT APPLICATION

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): Casting Finishing #1
3. Type of Process: Grinding of cleaned castings.
4. Major Raw Materials Processed: Ductile iron, grinding media.

5. Process Weight: 20,474 lbs/hr
- (This is the total weight of all materials introduced into the process expressed in lbs/hr.)

6. Control Equipment Data:

- A. ☒ Emissions Uncontrolled
- B. ☐ Baghouse (File Form E102)
- C. ☐ Wet Collecting Device (File Form E103)
- D. ☐ Electrostatic Precipitator (File Form E104)
- E. ☐ Inertial Separators (File Form E105)
- F. ☐ Other - Specify _____

7. Control Equipment Efficiency for each pollutant emitted by this equipment (from appropriate Form E102, E103, E104, E105, E107 or enter zeros if A is checked in Item 7):

	% Efficiency
Particulates	<u>0</u>
SO _x	<u> </u>
NO _x	<u> </u>
CO	<u> </u>
Hydrocarbons	<u> </u>
Other:	<u> </u>
	<u> </u>
	<u> </u>

8. Actual Total Suspended Particulate Emissions:
N/A A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)
B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \text{_____ lbs/hr}$$

9. Actual PM₁₀ Emissions:
A. Uncontrolled Emissions: 0.10 lbs/hr
B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \text{0.10 lbs/hr}$$

10. Actual Sulfur Oxides Emissions:
N/A Specify air required for process: _____ SCFM
A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)
B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \text{_____ lbs/hr}$$

11. Nitrogen Oxides Emissions (lbs/hr as NO₂):
N/A A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)
B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \text{_____ lbs/hr}$$

12. Other Air Contaminant Emissions - Specify:
N/A

<u>AIR CONTAMINANT</u>	<u>AMOUNT EMITTED (lbs/hr)</u>
_____	_____
_____	_____

☐ The values shown were determined by actual stack test.
(Submit a copy of stack test with full details.)

☐ The values shown were estimated.
(File Form E106 for each pollutant shown.)

- ☐ Odors ☐ Eye Irritations ☐ Property Damage ☐ Health Effects
- ☐ Other nuisances outside of plant property ☒ No environmental damage

- Stack Height (emission point) above ground: _____ ft
Ground Elevation above sea level at stack base: _____ ft
Stack Diameter: _____ ft
Volume of gas discharged into atmosphere: _____ cfm
Gas exit temperature: _____ °F

- This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before it will be acceptable.

Company Official: James R. Williams
Title: Plant Engineer
Date: April 8, 1996

DO NOT WRITE BELOW THIS LINE

Special Notations: _____

POLLUTION ESTIMATION FORM

1. Name of Company (as shown on Line 1, Form E001): _____

U. S. PIPE & FOUNDRY COMPANY2. Equipment Name (as shown on Line 10, Form E001): Casting Finishing #13. Type of pollutant for which estimation is made: PM₁₀4. Pollutant Emission Factor (PEF): .01 lbs/ton
(Give value & units in lbs/ton,
lbs/lbs, lbs/gal, gr/ft³, etc.)Source of Emission Factor: APCB

5. Uncontrolled Pollution Emission Rate:

<u>.01 lbs/ton</u>	X	<u>10.24 tons/hr</u>	=	<u>0.10 lbs/hr</u>
(PEF from Item 4)		(Give operating rate for this equipment and the appropriate units in either lbs/hr, tons/hr, gal/hr, or CFM)		(Give value & units)

6. Uncontrolled
Pollution Emission Rate: 0.10 lbs emitted/hr
(from Item 5 convert to lbs/hr)

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: Jim HallwoodTitle: Plant EngineerDate: April 8, 1996

DO NOT WRITE BELOW THIS LINE

Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____



UNITED STATES PIPE AND FOUNDRY COMPANY

Chattanooga Valve & Fittings Plant
P.O. Drawer 311
CHATTANOOGA, TENNESSEE 37401

April 9, 1996

Casting Finishing #2 covers grinding operations in the building we call #2 Cleaning Shed and in the attached lean-tos. These operations include 14 hand grinders and 3 swing frame grinders.

All of the castings that are processed in this area are from #4 and #10 Units, and are generally worked on as they lie on the floor. We estimate the process weight rate in this area to be 6,992 lbs/hr.

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401-0311
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT ST., CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:

- ☐ Installation Permit ☒ Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____
- ☐ Temporary Operating Permit ☐ Certificate of Operation (Renewal)
Instal. Permit No. _____ Certificate of Operation No. _____

8. Type of equipment for which application is made:

- ☒ Process Equipment (Submit E010 or Form E010A; ☐ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant
emissions (Submit Form E014; ☐ Already Submitted)

9. The following forms are filed with this application: E010, E10610. Equipment Name: Casting Finishing #211. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:

A) Increase, decrease, or alter process materials, fuel, refuse type, etc.

☐ YES☒ NO

B) Increase, decrease, or alter emissions or emission points

☐ YES☒ NO

(If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)


* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010). Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

6,992 lbs/hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: 

Signature

Title: Plant Engineer

Date: April 8, 1996

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

PROCESS EQUIPMENT APPLICATION

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): Casting Finishing #2
3. Type of Process: Grinding of cleaned castings.
4. Major Raw Materials Processed: Ductile iron, grinding media.

5. Process Weight: 6,992 lbs/hr
- (This is the total weight of all materials introduced into the process expressed in lbs/hr.)

6. Control Equipment Data:

- A. ☒ Emissions Uncontrolled
- B. ☐ Baghouse (File Form E102)
- C. ☐ Wet Collecting Device (File Form E103)
- D. ☐ Electrostatic Precipitator (File Form E104)
- E. ☐ Inertial Separators (File Form E105)
- F. ☐ Other - Specify _____

7. Control Equipment Efficiency for each pollutant emitted by this equipment (from appropriate Form E102, E103, E104, E105, E107 or enter zeros if A is checked in Item 7):

	<u>% Efficiency</u>
Particulates	<u>0</u>
SO _x	<u> </u>
NO _x	<u> </u>
CO	<u> </u>
Hydrocarbons	<u> </u>
Other:	<u> </u>
	<u> </u>
	<u> </u>

8. Actual Total Suspended Particulate Emissions:
N/A
A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)
B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \text{_____ lbs/hr}$$

9. Actual PM₁₀ Emissions:
A. Uncontrolled Emissions: _____ 0.035 _____ lbs/hr
B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \text{0.035 lbs/hr}$$

10. Actual Sulfur Oxides Emissions:
N/A
Specify air required for process: _____ SCFM
A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)
B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \text{_____ lbs/hr}$$

11. Nitrogen Oxides Emissions (lbs/hr as NO₂):
N/A
A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)
B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \text{_____ lbs/hr}$$

12. Other Air Contaminant Emissions - Specify:
N/A

<u>AIR CONTAMINANT</u>	<u>AMOUNT EMITTED (lbs/hr)</u>
_____	_____
_____	_____

☐ The values shown were determined by actual stack test.
(Submit a copy of stack test with full details.)

☐ The values shown were estimated.
(File Form E106 for each pollutant shown.)

13. Those emissions indicated in Item 13 may at times under normal operating conditions cause (check one or more):
- ☐ Odors ☐ Eye Irritations ☐ Property Damage ☐ Health Effects
- ☐ Other nuisances outside of plant property ☒ No environmental damage
14. Emission Point Data:
- Stack Height (emission point) above ground: _____ ft
Ground Elevation above sea level at stack base: _____ ft
Stack Diameter: _____ ft
Volume of gas discharged into atmosphere: _____ cfm
Gas exit temperature: _____ °F
15. Average Equipment Operating Time:
- | | | | |
|-----------|-------|----|-------|
| A. Daily | _____ | 10 | hours |
| B. Weekly | _____ | 5 | days |
| C. Yearly | _____ | 50 | weeks |

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before it will be acceptable.

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407-2495

Company Official: James H. Ballantyne
Title: Plant Engineer
Date: April 8, 1996

NOTE: Equipment must also meet Visible Emission Code.

=====

DO NOT WRITE BELOW THIS LINE

_____ Information approved and entered in permit inspection report
(Engineer)
_____ lbs/hr (allowable particulate emissions)
_____ PPM by volume as SO₂

UTM Coordinates of Company: EW _____ NS _____

This form corresponds to permit number: _____

Special Notations: _____

POLLUTION ESTIMATION FORM

1. Name of Company (as shown on Line 1, Form E001): _____

U. S. PIPE & FOUNDRY COMPANY2. Equipment Name (as shown on Line 10, Form E001): Casting Finishing #23. Type of pollutant for which estimation is made: PM₁₀4. Pollutant Emission Factor (PEF): .01 lbs/ton(Give value & units in lbs/ton,
lbs/lbs, lbs/gal, gr/ft³, etc.)Source of Emission Factor: APCB

5. Uncontrolled Pollution Emission Rate:

<u>.01 lbs/ton</u> (PEF from Item 4)	X	<u>3.50 tons/hr</u> (Give operating rate for this equipment and the appropriate units in either lbs/hr, tons/hr, gal/hr, or CFM)	=	<u>0.035 lbs/hr</u> (Give value & units)
---	---	---	---	---

6. Uncontrolled
Pollution Emission Rate: 0.035 lbs emitted/hr
(from Item 5 convert to lbs/hr)

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: *John R. Ballman*Title: Plant EngineerDate: April 8, 1996

DO NOT WRITE BELOW THIS LINE

Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____



UNITED STATES PIPE AND FOUNDRY COMPANY

Chattanooga Valve & Fittings Plant
P.O. Drawer 311
CHATTANOOGA, TENNESSEE 37401

April 9, 1996

Casting Finishing #3 covers grinding operations in the building we call the old Bond Storage Building. These operations include 10 hand grinders.

The castings that are processed in this area are all from #9 Unit and are generally the larger castings from the molding unit. We estimate the process weight rate in this area to be 5,826 lbs/hr.

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR
CERTIFICATE OF OPERATION *

1. Name of Company U. S. PIPE & FOUNDRY COMPANY 2. SIC Code: 3321
3. Company Official to Contact DENNIS URBANIAK 4. Phone No: 752-3912
5. Mailing Address for Line 3: P. O. BOX 311, CHATTANOOGA, TN 37401-0311
Street City State Zip Code
6. Company Address
(if different from line 5): 2701 CHESTNUT ST., CHATTANOOGA, TN 37408
Street City Zip Code

7. Application for:
- | | |
|---|--|
| <input type="checkbox"/> Installation Permit | <input checked="" type="checkbox"/> Certificate of Operation (Initial Application)
Temp. Operating Permit No. _____ |
| <input type="checkbox"/> Temporary Operating Permit
Instal. Permit No. _____ | <input type="checkbox"/> Certificate of Operation (Renewal)
Certificate of Operation No. _____ |

8. Type of equipment for which application is made:
- ☒ Process Equipment (Submit E010 or Form E010A; ☐ Already Submitted)
- ☐ Fuel Burning Equipment (Submit Form E011; ☐ Already Submitted)
- ☐ Incineration Equipment (Submit Form E012; ☐ Already Submitted)
- ☐ Odor or Miscellaneous (Specify) _____ (Submit Form E013;
☐ Already Submitted)
- ☐ Minor Pollution Source—less than 1000 lbs / year and 10 lbs / day total uncontrolled contaminant emissions (Submit Form E014; ☐ Already Submitted)
9. The following forms are filed with this application: E010, E106

10. Equipment Name: Casting Finishing #3

11. If Application is for a Temporary Operating Permit or Certificate of Operation (Initial or Renewal) are there any changes since previous application in the equipment or operational procedures which might:
- A) Increase, decrease, or alter process materials, fuel, refuse type, etc.
☐ YES ☒ NO
- B) Increase, decrease, or alter emissions or emission points
☐ YES ☒ NO
- (If either answer is YES, new forms E010, E011, E012, E013, or E014 and associated forms must be filed with this application.)

* Form must be completely filled out before it is acceptable.

12. Process Weight, lb/hr, (Item 6 on Form E010). Incineration Rate, lbs/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1000 BTU/hr, (Item 7C on Form E011):

5,826 lbs/hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail To:

CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: Joe Sallaway

Signature

Title: Plant Engineer

Date: April 8, 1996

DO NOT WRITE BELOW THIS LINE

_____ Permit Fee _____ Hours Technical Research and Computer Time

_____ Inspection Approval Date Inspected: _____

_____ Reviewed by Supervisor

_____ Check Received. Amount _____ Check Number _____ Date _____

_____ Updated on Computer

_____ Registered in Suspense File

SPECIAL CONDITIONS IMPOSED: _____

Expiration Date: _____ Certificate of Operation No.: _____

Approved By: _____

Director

Date: _____

PROCESS EQUIPMENT APPLICATION

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY
2. Equipment Name (as shown on Line 10, Form E001): Casting Finishing #3
3. Type of Process: Grinding of cleaned castings.
4. Major Raw Materials Processed: Ductile iron, grinding media.

5. Process Weight: 5,826 lbs/hr
(This is the total weight of all materials introduced into the process expressed in lbs/hr.)

6. Control Equipment Data:

- A. ☒ Emissions Uncontrolled
- B. ☐ Baghouse (File Form E102)
- C. ☐ Wet Collecting Device (File Form E103)
- D. ☐ Electrostatic Precipitator (File Form E104)
- E. ☐ Inertial Separators (File Form E105)
- F. ☐ Other - Specify _____

7. Control Equipment Efficiency for each pollutant emitted by this equipment (from appropriate Form E102, E103, E104, E105, E107 or enter zeros if A is checked in Item 7):

	<u>% Efficiency</u>
Particulates	<u>0</u>
SO _x	<u> </u>
NO _x	<u> </u>
CO	<u> </u>
Hydrocarbons	<u> </u>
Other:	<u> </u>
	<u> </u>
	<u> </u>

8.
N/A

Actual Total Suspended Particulate Emissions:

- A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)
- B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \text{_____ lbs/hr}$$

9.

Actual PM₁₀ Emissions:

- A. Uncontrolled Emissions: 0.029 lbs/hr
- B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \underline{0.029} \text{ lbs/hr}$$

10.
N/A

Actual Sulfur Oxides Emissions:

- Specify air required for process: _____ SCFM
- A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)
- B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \text{_____ lbs/hr}$$

11.
N/A

Nitrogen Oxides Emissions (lbs/hr as NO₂):

- A. Uncontrolled Emissions: _____ lbs/hr (File Form E106)
- B. Actual Emissions: _____ lbs/hr (Submit stack test report)
OR
Estimated Emissions:
$$\frac{(100\% - \text{Control Efficiency (\%)})}{100\%} \times \text{Uncontrolled Emissions} = \text{_____ lbs/hr}$$

12.
N/A

Other Air Contaminant Emissions - Specify:

AIR CONTAMINANT

AMOUNT EMITTED (lbs/hr)

☐ The values shown were determined by actual stack test.
(Submit a copy of stack test with full details.)

☐ The values shown were estimated.
(File Form E106 for each pollutant shown.)

- ☐ Odors ☐ Eye Irritations ☐ Property Damage ☐ Health Effects
- ☐ Other nuisances outside of plant property ☒ No environmental damage

- Stack Height (emission point) above ground: _____ ft
Ground Elevation above sea level at stack base: _____ ft
Stack Diameter: _____ ft
Volume of gas discharged into atmosphere: _____ cfm
Gas exit temperature: _____ °F

15. Average Equipment Operating Time:
- | | | | |
|----|--------|-----------|-------|
| A. | Daily | <u>10</u> | hours |
| B. | Weekly | <u>5</u> | days |
| C. | Yearly | 50 | weeks |

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before it will be acceptable.

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407-2495

Company Official:

Title: Plant Engineer

Date: April 8, 1996

NOTE: Equipment must also meet Visible Emission Code.

DO NOT WRITE BELOW THIS LINE

_____ Information approved and entered in permit inspection report
(Engineer)

lbs/hr (allowable particulate emissions)

_____ PPM by volume as SO₂

UTM Coordinates of Company: EW _____ NS _____

This form corresponds to permit number: _____

Special Notations: _____

POLLUTION ESTIMATION FORM

1. Name of Company (as shown on Line 1, Form E001): U. S. PIPE & FOUNDRY COMPANY

2. Equipment Name (as shown on Line 10, Form E001): Casting Finishing #3

3. Type of pollutant for which estimation is made: PM₁₀

4. Pollutant Emission Factor (PEF): .01 lbs/ton
(Give value & units in lbs/ton,
lbs/lbs, lbs/gal, gr/ft³, etc.)
- Source of Emission Factor: APCB

5. **Uncontrolled Pollution Emission Rate:**
- | | | | | |
|--------------------|---|--|---|----------------------|
| <u>.01 lbs/ton</u> | X | <u>2.91 tons/hr</u> | = | <u>0.029 lbs/hr</u> |
| (PEF from Item 4) | | (Give operating rate for this equipment
and the appropriate units in either
lbs/hr, tons/hr, gal/hr, or CFH) | | (Give value & units) |

6. Uncontrolled
Pollution Emission Rate: 0.029 lbs emitted/hr
(from Item 5 convert to lbs/hr)

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. This form must be completely filled out before acceptable.

Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
3511 Rossville Boulevard
Chattanooga, Tennessee 37407

Company Official: John R. H. H. H.

Title: Plant Engineer

Date: April 8, 1996

DO NOT WRITE BELOW THIS LINE

Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____

**Part 70 Permit Number
47-065-3321**

Significant Modification and Administrative Amendments

This Modified Permit Shall Remain in Full Force and Effect

From February 16, 2001 Through April 8, 2004

Issued to:

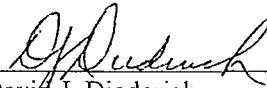
**UNITED STATES PIPE AND FOUNDRY COMPANY, INC.
2501-2701 CHESTNUT STREET
CHATTANOOGA, TENNESSEE 37408**

Designated Representative:
Dennis Urbaniak

TELEPHONE: (423) 752-3912

Responsible official:

Agreed to By:

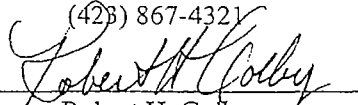

David J. Diederich
Plant Manager

An Application For Renewal Must Be Submitted to the Director of
the Chattanooga-Hamilton County Air Pollution Control Bureau

No Later Than September 9, 2003

**CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU**

3511 Rossville Blvd
Chattanooga, Tennessee 37407
(423) 867-4321


Robert H. Colby
Director

Prepared by James V. Ware, P.E.

TABLE OF CONTENTS

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The emissions units regulated by this permit are the following:

Emission Unit	Certificate of Operation	Description
101	Previously Unpermitted	Charge Handling
102	3321-30400101-40C	Melting Facility
103	Previously Unpermitted	Hot Metal Transfer
104	Previously Unpermitted	Desulfurization & Slagging
105	3321-30400303-41C	Induction Holding Furnaces
106	3321-30400301-39C	Ductile Treating Process
107	Previously Unpermitted	No. 9 Unit Inoculation & Slagging
108	Previously Unpermitted	No. 10 Unit Inoculation & Slagging
109	3321-30400101-39C	Fitting Plant Pouring & Cooling
110	3321-30400101-39C	No.9 Unit Shakeout
111	3321-30400101-39C	No.10 Unit Shakeout
112	3321-30400340-15C 3321-30400101-38C 3321-30400325-69I 3321-30400325-70I	No. 9 Unit Casting Cleaning
113	3321-30400340-16C 3321-30400299-50C	No.10 Unit Casting Cleaning
114	3321-30400340-15C 3321-30400340-16C 3321-30400360-18C 3321-30400360-19C 3321-30400360-25C 3321-40200101-51C	Grinding, Finishing, & Priming Operation

Emission Unit	Certificate of Operation	Description
115	3321-40200101-36C 3321-40200101-37C 3321-40200101-43C 3321-40200101-52C	Cement Lining Building
116	3321-40200801-42C	Special Coating Operation
118	3321-30400350-35C	No. 10 Unit Airset Mold System
119	3321-30400350-44C 3321-30400350-35C	No. 10 Unit Sand Reclamation
120	3321-30400358-46C	No.9 Unit Greensand Mold System
121	Previously Unpermitted	Shell Cores Process
122	3321-30400398-33C	Airset Core System
123	3321-30400398-34C 3321-30400371-54C 3321-30400371-55C 3321-30400371-56C 3321-30400356-63I 3321-30400357-64I 3321-30400357-65I 3321-30400371-66I 3321-30400371-67I 3321-30400371-68I	Isocure Core System
124	3321-30400398-32C	Pepset Core System
125	3321-40200601-57C	Refractory Coating Operation
126	Previously Unpermitted	Packaging & Shipping Operation
127	3321-30400301-47C 3321-30799999-20C 3321-30799999-21C	Ancillary Fitting Plant Operations
128	3321-30400340-58I 3321-40202599-60I 3321-30400325-71I 3321-30400325-72I	Fusion Bonded Epoxy Process
206	3321-40200101-12C 3321-40200101-13C	Valve & Hydrant Production
207	3321-30400340-04C 3321-30400340-45C 3321-40202599-48C 3321-40202599-49C	Resilient Seat Valve Production
208	3321-30301001-09C 3321-60300103-53C	Ancillary Valve & Hydrant Plant Operations

Emission Unit	Certificate of Operation	Description
301	Previously Unpermitted	Solid Waste Landfill

Conditions of General Applicability

This permittee, United States Pipe and Foundry Company, Inc., is subject to each of the conditions expressed below and is required to comply with them throughout the term of the permit, and by accepting this permit and operating under it United States Pipe and Foundry Company, Inc. agrees to comply with all terms, provisions, limitations and requirements herein.

ALL SECTIONS OF THE CHATTANOOGA AIR POLLUTION CONTROL ORDINANCE CITED IN THIS PERMIT AS SET FORTH IN THIS ORDINANCE AS OF THE DATE OF PERMIT ISSUANCE ARE INCORPORATED HEREIN BY REFERENCE. Section numbers referred to in this permit which are not otherwise identified refer to sections in the Chattanooga Air Pollution Control Ordinance.

- 1.0. Definitions. Unless specifically defined within an air pollution control ordinance provision referenced elsewhere in this permit, the definitions in §4-2 and §4-53 shall apply. §4-2; §4-53
- 2.0. Severability. If any provision, part of a provision, sentence, clause or phrase in this permit is for any reason declared to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such decision shall not affect the validity of any other portion of this permit, and only such invalid portion shall be elided. §4-57(a)(5)
- 3.0. Compliance.
 - 3.1. The permittee must comply with all conditions of the Part 70 permit. Noncompliance with any permit provision constitutes a violation of either the Chattanooga City Code, Part II, Chapter 4, known as "The Chattanooga Air Pollution Control Ordinance"; the Tennessee Air Quality Act, T.C.A. 68-201-101 *et. seq.*; and/or the federal Clean Air Act, as amended, Title 42 United States Code §7401 *et. seq.* and is grounds for joint and several enforcement action; for permit termination, revocation or modification; or for denial of a permit renewal application. Enforcement by the Board or Bureau Director shall be conducted in accordance with the provisions of §4-4, §4-7, §4-14, §4-15, §4-17, §4-18, §4-20, §4-61, §4-62, §4-63, §4-64, and §4-65, as appropriate to the circumstances. §4-57(a)(6)(i)
 - 3.2. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. §4-57(a)(6)(ii)
 - 3.3. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination; or the filing of a notification of planned changes or anticipated noncompliance does not stay any condition in this permit. §4-57(a)(6)(iii)
 - 3.4. A compliance certification shall be submitted within (12) twelve months after the issuance date of this permit and annually every twelve months thereafter throughout the term of this permit, or such more frequent periods as specified in any applicable requirement included in this permit. The compliance certification shall be submitted to the Chattanooga-Hamilton County Air Pollution Control Bureau in Chattanooga, Tennessee and to Air and EPCRA Enforcement Branch, U.S. EPA Region 4, 61 Forsyth Street, SW, Atlanta, GA 30303. Such certification shall include the

following information:

- 3.4.1. Identification of each term or condition of the permit that is the basis of the certification;
 - 3.4.2. Compliance status;
 - 3.4.3. Whether compliance was continuous or intermittent;
 - 3.4.4. The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with §4-57(a)(3);
 - 3.4.5. Where any specific test method requires quality assurance audit samples and the audit result does not validate the source's sample within the specified parameters, the source must retest the stack test until such time as the audit result does validate the sample within the specified parameters; except that the Bureau Director may waive retesting if the source's stack test sample is in compliance with this permit even if not validated within the specified quality assurance parameters. §4-3(d)
 - 3.4.6. Such other facts as the Board or Bureau Director may require to determine the compliance status of the Part 70 source; and §4-57(c)(5)(iii)(E)
 - 3.4.7. Such additional requirements as may be required for enhanced monitoring compliance certification under Title 42 U.S.C. § 7414(a)(3) and §7661c(b) of the Clean Air Act. §4-57(c)(5); §4-3(d)
- 3.5. The methods set forth in §4-3 shall be applicable for determining compliance with all terms, provisions, limitations and requirements contained in this permit, except where otherwise specifically provided in this permit.

4.0. Property Rights.

This permit does not convey any property rights of any sort or any exclusive privilege. This permit is not assignable except as provided in §4-58 (d)(1)(iv). §4-57(a)(6)(iv)

5.0. Information to be Furnished.

The permittee shall furnish to the Bureau Director, within a reasonable period of time, any information that the Board or the Bureau Director may request in writing to determine whether cause exists for modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board or the Bureau Director copies of records required to be kept by the permit. For information claimed to be confidential, the permittee may furnish such records directly to the Administrator of the U. S. Environmental Protection Agency along with a claim of confidentiality. Eligibility for confidential treatment shall be determined by the Board pursuant to the provisions of §4-19 of the Chattanooga Air Pollution Control Ordinance for information submitted directly to the Bureau Director. An independent determination regarding confidentiality would be made by the Administrator of the U.S. Environmental Protection Agency for information submitted directly to the Administrator. §4-57(a)(6)(v)

- 6.0. Fees. The permittee shall pay fees to the Bureau Director consistent with the fee provisions set forth in §4-60. §4-57(a)(7)
- 7.0. Changes Provided for by Permit. No permit revision shall be required under any economic incentives, marketable permits, emissions trading or similar program or process which is included in the Chattanooga City Code, Part II, Chapter 4, Article III for changes that are provided for in this permit pursuant to such program or process. §4-57(a)(8)
- 8.0. Reasonably Anticipated Operating Scenarios. Contemporaneously with making a change from one operating scenario to another, the permittee must record in a log at the Part 70 source premises a record of the scenarios under which it is operating. §4-57(a)(9)
- 9.0. Acid Precipitation Requirements. Where an applicable requirement of the Clean Air Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Clean Air Act and incorporated by reference at §4-52(d), both provisions are herein incorporated into this permit by reference and shall be legally enforceable. This source does not lawfully hold any allowance under Title IV of the Clean Air Act. §4-57(a)(1)(ii)
- 10.0. Federal Enforceability. All terms and conditions in this Part 70 permit, including any provisions designed to limit the potential to emit of this Part 70 source, are enforceable by the Administrator of the U.S. EPA and by citizens under the Clean Air Act except as noted in this Item 10:
- | | | | |
|-------|---------|-----------|--------------|
| 10.1. | Rule 12 | Odors | (Local Only) |
| 10.2. | Rule 14 | Nuisances | (Local Only) |

Any terms and conditions included in the permit that are not required under the Clean Air Act or under any of its applicable requirements are specifically designated in this permit as not being federally enforceable under the Clean Air Act. §4-57(b)(1) and (2)

- 11.0. Inspection of Permitted Source(s). Upon presentation of identification and in the performance of their duties, the permittee shall allow the Bureau Director and other employees of the Chattanooga-Hamilton County Air Pollution Control Bureau to perform the following:
- 11.1. Enter upon the permittee's premises or buildings where a Part 70 source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
 - 11.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
 - 11.3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
 - 11.4. Sample or monitor substances or parameters, and collect and preserve evidence for the purpose of assuring compliance with the permit or applicable requirements thereunder at reasonable times and for taking such other actions as are appropriate under the law in accordance with Item 3.1 of Conditions of General Applicability of this permit.

- 11.5. For the purposes of Items 11.2, 11.3, and 11.4 of these Conditions of General Applicability, "reasonable times" shall be considered to be customary business hours, unless reasonable cause exists to suspect noncompliance with the Chattanooga Air Pollution Control Ordinance or any "applicable requirement," as defined in §4-53, or with any permit issued thereunder, and the Bureau Director specifically authorizes a designee to inspect a facility at any other time.
- 11.6. In the alternative, the Bureau Director, other employees of the Chattanooga-Hamilton County Air Pollution Control Bureau, or any other law enforcement officer may obtain a search warrant to obtain, collect and preserve evidence. §4-16; §4-57(c)(2)
- 12.0. Record Retention Requirements.
- 12.1. All required monitoring data and related support information shall be retained by the permittee for five (5) years after the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, copies of all reports, and logs required by the permit. §4-57(a)(3)(ii)(B)
- 12.2. Reporting of Deviations. The permittee shall promptly report all emissions limitations exceedances and all other deviations from permit requirements (including those attributable to malfunctions), the probable cause of such exceedances or deviations, and any corrective actions or preventive measures taken. "Promptly report" shall mean an initial telephone report to the Bureau Director within twenty-four (24) hours after the onset of the exceedance or other deviation, followed up by a written report submitted to the Bureau Director within seven (7) days after the onset of the exceedance or other deviation. Any excess emissions or other deviation that creates an imminent hazard requiring immediate action to protect health or safety must be reported by telephone immediately to the Bureau Director, to the appropriate local emergency response agency, to the appropriate national response agency, and to the Tennessee Emergency Management Agency.
§4-12 and §4-57(a)(3)(iii)(B)
- 13.0. Emergency Provision.
- 13.1. Definition. An emergency is any situation arising from sudden and reasonably unforeseeable events beyond the control of the permittee, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the permittee to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. §4-57(g)
- 13.2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Item 13 of these Conditions of General Applicability are met, unless an ambient air violation occurs as a result of the emergency. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence which establishes that:

- 13.2.1. An emergency occurred and that the permittee can identify the cause(s) of the emergency; and
- 13.2.2. The permitted facility was at the time being properly operated; and
- 13.2.3. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- 13.2.4. The permittee submitted telephone notice of the emergency to the Bureau Director within one (1) working day of the time when emission limitations were exceeded due to the emergency, and the permittee submitted a follow up written report to the Bureau within seven (7) days after the onset of the exceedance. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. §4-57(g)
- 13.3. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. §4-12; 4-57(g)
- 13.4. The permittee must employ all reasonable measures to keep emissions to a minimum during start-ups, shutdowns, operation, and emergencies. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Exceedances of limitations on emissions that are caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered emergencies, and shall be considered in violation of the emission standard exceeded. §4-12
- 13.5. A log of any operation or failure to operate, start-up, or shutdown resulting in air pollutant emissions in excess of any applicable requirement must be kept at the Part 70 source. This log must record at least the following:
 - 13.5.1. Stack, air pollution control equipment, or emission point involved;
 - 13.5.2. Time excess emissions, start-up, or shutdown began or when excess emissions were first discovered by the source;
 - 13.5.3. Type of exceedance qualifying as a malfunction, or reason for shutdown;
 - 13.5.4. Time start-up or shutdown was complete or time the air pollutant source returned to normal operation after an emissions exceedance;
 - 13.5.5. Documentation that the source was or was not, at the time of the onset of the exceedance, being properly operated;
 - 13.5.6. Documentation of any preventative maintenance of the air pollution control equipment or process equipment or processes that had been completed prior to the emissions exceedance, start-up, or shutdown;

- 13.5.7. The steps taken by the source during the period of the emissions exceedance, start-up, or shutdown to minimize levels of emissions that exceeded the applicable requirements; and
- 13.5.8. The magnitude and identity of the excess emissions, expressed in pounds per hour and the units of the applicable emission limitation, and the operating data and calculations used in determining the magnitude of the excess emissions. §4-12
- 13.6. The information required by Items 13.5.1 and 13.5.2 of these Conditions of General Applicability must be entered into the log by the end of the shift during which the exceedance or other deviation began. All required information shall be entered in the log no later than 24 hours after the exceedance or other deviation has ceased or has been corrected. Any later discovered corrections may be added in the log as footnotes with the reason given for the change. There shall be no erasures, obliterations, modifications, or revisions of the log entry except by single line-through and identification of corrections. §4-12
- 13.7. If the Bureau Director or the Administrator of the Chattanooga-Hamilton County Health Department finds that a condition of air pollution exists or is likely to exist, and that it creates any emergency requiring immediate action to protect human health or safety, the mayor with the concurrence of the Bureau Director or the Administrator of the Chattanooga-Hamilton County Health Department shall order persons causing or contributing to the air pollution to reduce or discontinue immediately the emission of air pollutants. Upon issuance of any such order, the Bureau Director shall fix a place and time, not later than twenty-four (24) hours thereafter, for a hearing to be held before the Board. Not more than twenty-four (24) hours after commencement of such hearing, and without adjournment thereafter, the Board shall affirm, modify, or recommend to the mayor that the order be affirmed, modified or set aside. §4-20
- 14.0. Certification. Any application form, report, or compliance certification submitted pursuant to this permit shall contain a certification, as defined in §4-53, by a responsible official, as defined in §4-53, of truth, accuracy, and completeness. Any certification required by this permit shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. §4-56(d)
- 15.0. Modifications.
- 15.1. Administrative amendments to this permit shall be requested and may be granted in accordance with §4-58(d), and only for the reasons set forth therein. The permittee is required to submit an application for an administrative amendment within sixty (60) days after a change of the name of the permittee is registered with the Tennessee Secretary of State.
- 15.2. Minor permit modifications to this permit shall be requested and may be granted in accordance with §4-58(e)(1) and (2).
- 15.3. Significant permit modifications to this permit shall be requested and may be granted in accordance with §4-58(e)(3).

15.4. Operational flexibility allows changes within this permitted source without requiring a permit revision, if the changes are not modifications under Title I of the Clean Air Act and the changes do not exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions), provided that:

15.4.1. The permittee provides the U.S. Environmental Protection Agency and the Bureau Director with written notification at least 7 days in advance of the proposed changes; and

15.4.2. For each such change, said written notification shall include a brief description of the change within the permitted source, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.

The permit shield described in §4-57(f) shall not apply to any change made pursuant to operational flexibility. §4-58(i)

15.5. Installation permit application and issuance requirements in §4-8(a) of the Chattanooga Air Pollution Control Ordinance will apply to this permittee and emissions units located at this Part 70 source if modifications to or new construction of a Part 70 source are subject to the following:

15.5.1. § 4-41, Rule 18 (PSD);

15.5.2. § 4-41, Rule 25.3 (VOC rule for new or modified sources);

15.5.3. § 4-41, Rule 23 (Reasonable and proper controls for process gaseous emissions);

15.5.4. Any standard or other requirement pursuant to regulations promulgated under Title 42 U.S.C. §7411 in Title 40 Code of Federal Regulations Part 60; or

15.5.5. Case-by-case determinations made pursuant to Title 42 U.S.C. §7412(g) and (j) as set forth at §4-53 "Applicable requirement" (4); or

15.5.6. Case-by-case determinations made pursuant to §4-41, Rule 27 (Particulate Matter Controls for New Sources and New Modifications after August 29, 1995). §4-50

16.0. Off-Permit Changes.

16.1. An off-permit change is one that:

16.1.1. Is not addressed or prohibited by the permit;

16.1.2. Is not a modification under Title I of the Clean Air Act;

16.1.3. Is not subject to any requirements under Title IV of the Clean Air Act;

16.1.4. Meets all applicable requirements, as described in this permit; and

- 16.1.5. Does not violate, or cause or contribute to a violation of, any existing permit term or condition.
- 16.2. A contemporaneous notification shall be submitted to the Bureau Director and to the U.S. Environmental Protection Agency except for changes that qualify as insignificant under Sections 4-56(c)(11) and (c)(12).
- 16.3. The permittee shall keep a record describing off-permit changes made at the Part 70 source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those off-permit changes.
- 16.4. The permit shield described in §4-57(f) of the Chattanooga Air Pollution Control Ordinance shall not apply to any change made pursuant to off-permit changes. §4-58(j)
- 17.0. Permit Reopening. This permit shall be reopened and revised under any of the following circumstances, as set forth in §4-58(f)(1).
- 17.1. Additional applicable requirements become applicable by amendment of the Chattanooga Air Pollution Control Ordinance to this source and the remaining permit term is 3 or more years. Such reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire.
- 17.2. Additional requirements (including excess emissions requirements) become applicable to an affected source as defined in §4-53. Upon approval by the Administrator and amendment of the local air pollution control ordinance, excess emissions offset plans shall be incorporated into the permit.
- 17.3. The Board or Bureau Director or the Administrator determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- 17.4. The Board or Bureau Director or the Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

Proceedings to reopen and issue a revised permit shall follow the same procedures as apply to initial permit issuance, described in §4-58, and shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable, but only after notice of such intent is provided to this permittee by the Bureau Director at least 30 days in advance of the date that permit is to be reopened. A shorter time period may be provided in the case of an emergency. §4-58(f).

This permittee is also subject to reopening for cause by EPA, as described in §4-58(g).

- 18.0. Rules Applicable to All Permittee Activities. The following conditions apply to all activities of this permittee, including insignificant activities:

- 18.1. Nitrogen Oxides. The permittee shall comply with §4-41, Rules 2.4, 2.5 and 2.7, regarding emissions of nitrogen oxides.
- 18.2. Visible Emissions. The permittee shall comply with §4-41, Rule 3, limiting the opacity of visible emissions to twenty (20) percent for an aggregate of five (5) minutes in any one hour period or twenty (20) minutes in any twenty-four hour period. The permittee shall also comply with §4-41, Rule 9, regarding visible emissions from internal combustion engines. In addition, the permittee shall comply with §4-41, Rule 11 limiting opacity from transport and material handling in open air to twenty (20) percent opacity for three (3) minutes in any consecutive sixty-minute period or twenty (20) minutes in a twenty-four hour period. *§4-41, Rule 3, Rule 9 and Rule 11. §4-3(c)(9).*
- 18.3. Certain Fuels. The permittee shall comply with §4-41, Rule 4, regarding importation, sale, transportation, use or consumption of fuels and sulfur content.
- 18.4. Prohibition of Hand-Fired Fuel-Burning Equipment. The permittee shall comply with §4-41, Rule 5, regarding hand-fired fuel-burning equipment.
- 18.5. Open Burning. The permittee is prohibited from conducting open burning except in accordance with §4-41, Rule 6.
- 18.6. Other Fuel-Burning Equipment. The permittee shall comply with §4-41, Rule 8, regarding other fuel-burning equipment.
- 18.7. Process Emissions. The permittee shall comply with §4-41, Rule 10, regarding process emissions.
- 18.8. Odors in Ambient Air. The permittee shall comply with §4-41, Rule 12, regarding emission of objectionable odors. (Local Rule).
- 18.9. Sulfur Oxides. The permittee shall comply with §4-41, Rule 13, regarding emissions of sulfur oxides.
- 18.10. Nuisance. The permittee shall comply with §4-41, Rule 14, concerning discharges from any source of air contaminants or other material which shall cause a nuisance. (Local Rule)
- 18.11. Hazardous Air Pollutants. The permittee shall comply with §4-41, Rule 16.1 through 16.4 regarding emission standards for hazardous air pollutants other than asbestos.
- 18.12. Asbestos Demolition or Renovation. The permittee shall comply with §4-41, Rule 17, when conducting any demolition or renovation activities at the permitted source.
- 18.13. Stack Heights. The permittee shall comply with §4-41, Rule 22, regarding good engineering practices for stack heights.
- 18.14. Particulate Matter Controls for New Sources and New Modifications After August 30, 1995. The permittee shall comply with §4-41, Rule 27 regarding particulate matter controls for any new source or modification for which installation

commences after August 30, 1995.

- 19.0. Stratospheric Ozone and Climate Protection. The permittee is subject to the standards for recycling and emissions reduction promulgated at Title 40 *Code of Federal Regulations* Part 82, Subpart F, including the use of certified technicians only.
- 20.0. Dismantled Equipment. The permittee shall report to the Bureau Director within thirty (30) days after the permanent discontinuance or dismantlement of any equipment or activity covered by this permit.
§4-11(a)
- 21.0. Monitoring. All monitoring and related reporting shall be conducted in compliance with §4-57(a)(3)(ii)(A) and (B).
- 22.0. Applicable Requirements. In addition to the Conditions of General Applicability, Conditions Applicable to the Entire Facility, and Emission Unit Special Conditions in this permit, "applicable requirements" as defined in §4-53 shall apply.
- 23.0. Basis of Permit. This permit is being issued based on the statements made and the information provided in the Part 70 permit application submitted under oath by this source.

CONDITIONS APPLICABLE TO THE ENTIRE FACILITY

- 1.0. Monitoring Reports. In addition to the conditions of general applicability, semiannual compliance monitoring reports are required. The initial report is due within thirty days after the end of the first six-month reporting period following permit issuance. After that, reports will be required at six-month intervals. The following items used for manufacturing at the facility will be included in the compliance report for the preceding rolling twelve-month period:
- 1.1. Total quantity and VOC content of each VOC-containing coating
 - 1.2. Total usage and VOC content of each sand core and/or mold resin component
 - 1.3. Total quantity and sulfur content of coke used at the melting facility
 - 1.4. Total operating hours of the No.9 Unit Sand Screening Drum (E023)
 - 1.5. Total quantity of triethylamine
 - 1.6. Total quantity and VOC content of each VOC-containing refractory coating
 - 1.7. Total quantity of iron poured at the facility
 - 1.8. Total quantity of iron poured on No. 10 Unit
- 2.0. Maintenance Plans and Procedures.
- 2.1. Within twelve months of permit issuance, United States Pipe and Foundry Company, Inc. shall develop and maintain a preventative maintenance plan and procedures for all major air pollution control equipment. At a minimum, the plans shall include the manufacturer's recommendations and recordkeeping of periodic and/or scheduled maintenance activities for the purposes of complying with such plans and procedures. These plans shall be updated as necessary, maintained on site, and available for inspection by Bureau representative upon request during normal business hours. §4-57
 - 2.2. For the purpose of this Condition 2.0, major air pollution control equipment shall be defined as all air pollution equipment for which monitoring and inspection is required in this Part 70 permit.
- 3.0. Insignificant Activities. The following insignificant activities were certified in the United States Pipe and Foundry Company Part 70 permit application to be in compliance with §4-56(c)(12).
- 3.1. Surface coating and degreasing operations which do not exceed a combined total usage of more than 60 gallons/month of coatings; thinners, clean-up solvents, and degreasing solvents, at any one location.
 - 3.2. All storage tanks with a capacity of no more than 1,000 gallons (including 55-gallon drums used only for storage) except those emitting any hazardous air pollutant.
 - 3.3. Powder coating operations.
 - 3.4. Emergency generators.
- 4.0. Record Keeping Activities. Records as required under this Part 70 permit shall be kept of the following items for a period of five years:
- 4.1. Total operating hours of the No.10 Unit Sand Reclamation Equipment (E036 and

- E037) and the No.9 Unit Sand Screening Drum (E023)
- 4.2. All information required as part of Item 13.5 in the Conditions of General Applicability
 - 4.3. All information required as part of Item 1.0 in the Conditions Applicable to the Entire Facility
 - 4.4. All performance evaluations for emissions control systems in accordance with Condition 7.0 in these Conditions Applicable to the Entire Facility
 - 4.5. All corrective actions taken as a result of the performance evaluations conducted in accordance with Condition 7.0 in these Conditions Applicable to the Entire Facility
 - 4.6. All information entered into logs as required in Condition 7.0 of these Conditions Applicable to the Entire Facility and the Emission Unit Special Conditions of this Part 70 Permit
- 5.0. Sulfur Concentration in Coke. The maximum allowable sulfur content of the coke used at this facility shall not exceed 0.7 percent. *Part 70 Permit Application Request by Permittee*
- 6.0. Visible Emissions from Buildings. Visible emissions from buildings, other than those from stacks or flues, shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. *§4-41, Rule 26.20; §4-57*
- 7.0. Compliance Monitoring.
- 7.1. Visible Emissions. Daily qualitative visible emissions observations shall be conducted of the following designated emission points while the source is in operation. In the event that visible emissions are observed at or above the designated action level for the individual emission point, a formal visible emission reading shall be conducted in accordance with U.S. EPA Test Method 9, Title 40 *Code of Federal Regulations* Part 60, Appendix A (July 1, 1996), as supplanted by the provisions of Section 4-3(c)(9) of the Chattanooga Air Pollution Control Ordinance. If the opacity of the observed visible emission is determined to be above the designated action level, corrective action shall be initiated.
 - 7.1.1. Each formal visible emissions reading shall be conducted for a minimum of fifteen consecutive minutes by a certified observer.
 - 7.1.2. U.S. Pipe shall maintain a log of all qualitative and formal visible emissions observations in accordance with the following:
 - 7.1.2.1. The qualitative visible emissions observation log shall contain, at a minimum, the date of the observation, the results of the observation, and the initials of the observer.
 - 7.1.2.2. The formal visible emissions reading log shall contain, at a minimum, the date and time the reading was made, the results of the reading, the name of the observer, and the cause and corrective action taken for the observed emissions.

7.1.2.3. U.S. Pipe shall maintain the logs and original visible emissions observations forms for a period of five years after the date of entry.

7.1.3. Visible emissions monitoring shall be conducted on the following emission points:

Stack ID	Description	Action Level	Allowable
S001	Charge Handling	10%	20%
S003/S004	Cupola	10%	20%
S004	Melting Facility Building	5%	5%
S002	Cupola Baghouse	10%	20%
S007	Ductile Treating & No.9 Unit Shakeout Baghouse	10%	20%
S005/S006	Ductile Building Roof Vents and Ventilators	5%	5%
S008-S015	Main Foundry Building Roof Monitors over Units Nos.9, 4, & 10 Pouring, Cooling, & Shakeout	5%	5%
S022	No.9 Unit Secondary Shakeout Baghouse	10%	20%
S059	Cleaning Shed No.1 Ventilators	5%	5%
S019/S060	Cleaning Shed No.2 Roof Eaves	5%	5%
S062	Old Heat Treat Building Wall Fan	5%	5%
S037	Sand Reclaimer Fines Baghouse	10%	10%
S038	Sand Reclaimer Classifier Baghouse	10%	10%
S053	Shell Core Building Ventilator	5%	5%
S078	Pattern Shop Cyclone	10%	20%
S090	No. 9 Casting Cooling Conveyor Baghouse	10%	10%
S058	GLA Burn-off Oven	5%	10%
S091	FBE Rotoblast Barrels Baghouse	5%	10%

7.2 Differential Pressure Across Baghouses. Daily monitoring of the differential pressure across the designated baghouses shall be conducted while the equipment is in operation. If the differential pressure is observed outside the specified range, an investigation of the cause shall be conducted in accordance with U.S. Pipe and Foundry's written air pollution control equipment maintenance procedures. Once the cause has been determined, corrective action shall be initiated and completed in a timely manner.

7.2.1. United States Pipe and Foundry Company, Inc. shall maintain a log of all differential pressure readings taken for each device. This log shall contain, at a minimum, the date of the observation, the observed reading, the initials of the observer, and if the baghouse is operating outside the indicated range, the corrective action taken. This log shall be maintained for a period of five years after its date of entry.

CONTROL DEVICE ID.	DESCRIPTION	RANGE (INCHES OF WATER)
CD002	Cupola Baghouse	2-12
CD003	Ductile Treating & No. 9 Unit Shakeout Baghouse	1-9
CD005	Large Casting Rotoblast Baghouses	1-9
CD006	No.9 Unit Secondary Shakeout Baghouse	1-8
CD007	No. 9 Casting Automatic Cleaner Baghouse	1-9

CONTROL DEVICE ID.	DESCRIPTION	RANGE (INCHES OF WATER)
CD008	Monorail & 8' Tableblast Baghouse	1-9
CD047	No.9 Casting Cooling Conveyor Baghouse	1-9
CD048	FBE Rotoblast Barrels Baghouse	1-9
CDV08	Rotoblast Baghouse	1-9
CDV10	Airblast Baghouse	1-8

- 8.0. Emissions Determination. All estimated emissions for this Part 70 Permit shall be the product of the emission factor for a given process and the applicable control efficiencies (including equivalent control efficiencies for wetted sand processes and settling factors). Verification of compliance with the emission limitations of this Part 70 Permit shall be accomplished using the emission calculation method stated above. §4-57; §4-60
- 9.0. Emissions Testing. Emissions testing for this facility, if required by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau, may consist of particulate matter, sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and hazardous air pollutants (HAP) testing, and shall be performed in accordance with the U.S. EPA Test Methods contained in Title 40 *Code of Federal Regulations* Part 60, Appendix A (July 1, 1996), and in accordance with the provisions in Section 4-3 of the Chattanooga Air Pollution Control Ordinance. §4-3; §4-57(c)(1)
- 10.0. Replacement of Equipment. The addition of air pollution control equipment to achieve additional emissions reductions and/or the replacement of air pollution control equipment with air pollution control of equal or greater control efficiency for each pollutant controlled by the original equipment are changes that qualify as operational flexibility with the following exception. The exception is that the air pollution control technology required by any regulation promulgated pursuant to Section 112 of the Clean Air Act codified at Title 40 *Code of Federal Regulations* Part 63, including control measures employed to demonstrate early reductions of hazardous air pollutants, is not eligible for replacement under operational flexibility. Operational flexibility changes are subject to the notification requirements of Paragraph 15.4 in the Conditions of General Applicability.
- 11.0. Usage of Equivalent Materials. United States Pipe and Foundry Company, Inc. may, at its discretion, employ the use of equivalent raw materials in plant operations. Equivalent raw materials are materials whose emissions of regulated air pollutants from the effected emission unit(s) shall not exceed the emissions allowed under this permit. No later than seven days prior to the change, United States Pipe and Foundry Company, Inc. shall provide to the Chattanooga-Hamilton County Air Pollution Control Bureau an analysis of the projected hourly emission rate of all regulated air pollutants, including hazardous air pollutants, based on this change in the raw materials. *Part 70 Permit Application Request by Permittee*

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT 101 – CHARGE HANDLING

Charge Handling Equipment (E001)

- 1.0. The maximum emissions of particulate matter resulting from charge handling shall be limited to 8.57 pounds per hour and 37.53 tons per year. §4-2; §4-57; §4-60
- 2.0. Visible emissions from material handling shall not exceed an opacity of twenty percent for an aggregate of more than three minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 11.1

EMISSION UNIT 102 – MELTING FACILITY

Cupola (E002)

Cupola Afterburner (CD001)

- 1.0. The maximum emissions of particulate matter from the melting facility shall be limited to 4.95 pounds per hour and 21.68 tons per year. Compliance with this emissions limitation shall be demonstrated by venting all captured cupola emissions through the Cupola baghouse (CD002). This Cupola baghouse shall be in operation at all times during cupola operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-2; §4-57
- 2.0. Operation of the Cupola baghouse (CD002) shall be within the operational pressure drop range determined in accordance with the compliance monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. Preventative maintenance on the Cupola baghouse (CD002) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures described in Condition 2.0 of the Conditions Applicable to the Entire Facility. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 4.0. Visible emissions from the Melting Facility shall not exceed an opacity of twenty percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 3.1
- 5.0. During startup and shutdown of the cupola, the owner or operator of the melting facility shall make such provisions or modifications as may be necessary so that visible emissions from the startup and shutdown of the cupola shall not exceed an opacity of twenty percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period and so that mass emissions do not exceed 0.020 grains per dry standard cubic foot. §4-41, Rule 3.1, Rule 26.12; §4-57
- 6.0. The maximum emissions of sulfur dioxide (SO₂) from the melting facility shall be limited to 6.55 pounds per hour and 28.66 tons per year. This emissions limitation shall be met by a maximum sulfur content of 0.7 percent by weight in the coke used as fuel in the cupola and by burning only natural gas or No.2 fuel oil as fuel in the cupola afterburner. §4-2; §4-57; Part 70 Permit Application Request by Permittee
- 7.0. The maximum allowable emissions of nitrogen oxides (NO_x) from the melting facility shall be 20.02 pounds per hour and 87.69 tons per year. This emissions limitation shall be met by burning only natural gas or No.2 fuel oil as fuel in the cupola afterburner. §4-2; §4-41, Rule 2; §4-57
- 8.0. All combustion emissions limitations shall be met by burning only natural gas or No.2 fuel oil as fuel in the cupola afterburner (CD001). §4-57

- 9.0. Operation of the cupola afterburner (CD001) shall be performed according to the permittee's written plans and procedures and the manufacturer's recommendations. These plans and procedures shall be such as to insure adequate residence time and operating temperature for proper control efficiency. These operational plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 10.0. The cupola afterburner (CD001) shall be operated at a minimum temperature of 1100°F whenever melting operations are conducted. This temperature shall be logged hourly. Continuous monitoring of the operating temperature by strip or circular chart recorder shall satisfy this monitoring requirement. §4-57
- 11.0. Preventative maintenance on the cupola afterburner (CD001) shall be performed accordance to United States Pipe and Foundry Company's written plans and procedures. These maintenance plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57

EMISSION UNIT 103 – HOT METAL TRANSFER

Hot Metal Transfer from Melting (E003)

- 1.0. The maximum emissions of particulate matter resulting from hot metal transfer shall be limited to 2.08 pounds per hour and 9.12 tons per year. §4-2; §4-57; §4-60
- 2.0. Visible emissions from material handling shall not exceed an opacity of twenty percent for an aggregate of more than three minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 11.1

EMISSION UNIT 104 – DESULFURIZATION & SLAGGING

Desulfurization Process (E004)

EMISSION UNIT 105 – INDUCTION HOLDING FURNACES

Hot Metal Transfer to Holding Furnace (E005)

Holding Furnace Preheat (E006)

EMISSION UNIT 106 – DUCTILE TREATING PROCESS

Treating Ladles (E007)

- 1.0. Emission limitations for particulate matter for these Emission Units shall be:
 - 1.1. The maximum emissions of particulate matter from Emission Unit 104 (Desulfurization and Slagging E004) shall be limited to 12.31 pounds per hour and 53.92 tons per year. §4-2; §4-57; §4-60
 - 1.2. The maximum emissions of particulate matter from Emission Unit 105 (Hot Metal Transfer to Holding Furnace E005 and Holding Furnace Preheat E006) shall be limited to 0.67 pounds per hour and 2.93 tons per year. §4-2; §4-57; §4-60
 - 1.3. The maximum emissions of particulate matter from Emission Unit 106 (Ductile Treating Process) shall be limited to 0.756 pounds per hour and 3.312 tons per year. Compliance with this emissions limitation shall be demonstrated by the operation of an emissions capturing system. All captured emissions from ductile treating shall be vented through the Ductile Treating and No.9 Unit Shakeout baghouse (CD003). This baghouse shall be in operation at all times during ductile treating except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-2; §4-57
 - 1.4. Particulate emissions from the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) stack (S007) shall not exceed 12.86 pounds per hour. These baghouse stack emissions consist of the combined emissions from the Ductile Treating Process (Emission Unit 106) and No.9 Unit Shakeout (Emission Unit 114). §4-41, Rule 26.12
- 2.0. Operation of the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. The maximum emissions of sulfur dioxide (SO₂) from the Induction Holding Furnace Pre-heaters shall be limited to 0.0004 pounds per hour and 0.002 tons per year. Compliance with this emission limitation shall be met by burning only natural gas as fuel in the Induction Holding Furnace Pre-heaters. §4-2; §4-57
- 4.0. The maximum emissions of nitrogen oxides (NO_x) from the Induction Holding Furnace Pre-heaters is 0.067 pounds per hour and 0.295 tons per year. Compliance with this emission limitation shall be met by burning only natural gas as fuel in the Induction Holding Furnace Pre-heaters. §4-2; §4-57; §4-60

EMISSION UNIT 107 – No.9 UNIT INOCULATION & SLAGGING

No.9 Unit Inoculation Process (E008)

EMISSION UNIT 108 – No.10 UNIT INOCULATION & SLAGGING

No.10 Unit Inoculation (E009)

EMISSION UNIT 109 – FITTING PLANT POURING & COOLING OPERATIONS

No.9 Unit Pouring (E010)

No.9 Unit Cooling (E011)

No.10 Unit Pouring & Cooling (E013)

- 1.0. The maximum emissions of particulate matter from No.9 Unit Inoculation and Slagging shall be limited to 12.06 pounds per hour and 52.82 tons per year. §4-2; §4-57; §4-60
- 2.0. The maximum emissions of particulate matter from No.10 Unit Inoculation & Slagging operations shall be limited to 4.48 pounds per hour and 19.63 tons per year. §4-2; §4-57; §4-60
- 3.0. Combined emissions of particulate matter from Fitting Plant Pouring & Cooling shall not exceed 21.94 pounds per hour and 96.10 tons per year. §4-2; §4-57; §4-60

EMISSION UNIT 110 – No.9 UNIT SHAKEOUT

No.9 Unit Shakeout (E014)

- 1.0. The maximum emissions of particulate matter from No.9 Unit Shakeout operations shall be limited to 7.277 pounds per hour and 31.87 tons per year. Compliance with this condition shall be demonstrated by the following:
 - 1.1. At all times during No.9 Unit Shakeout operations, an emissions capturing system shall be in operation to minimize fugitive emissions from this source.
 - 1.2. All captured emissions from the No.9 Unit Shakeout shall be vented through the Ductile Treating and No.9 Shakeout Baghouse (CD003). This capture system and baghouse shall be in operation at all times during shakeout operations except in accordance with Condition 13.0 of the Conditions of General Applicability.

§4-2; §4-57; §4-60

- 2.0. Operation of the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) shall be within the operational pressure drop range determined in accordance with the compliance monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility.
§4-57
- 3.0. Particulate emissions from the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) stack (S007) shall not exceed 12.86 pounds per hour. These emissions consist of combined captured emissions from the Ductile Treating Process (Emission Unit 106) and No.9 Unit Shakeout (E014 of Emission Unit 110). §4-41, Rule 26.12
- 4.0. Preventative maintenance on the Ductile Treating No.9 Unit Shakeout baghouse (CD003) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57

EMISSION UNIT 111 – No.10 UNIT SHAKEOUT
No.10 Units Shakeout (E015)

- 1.0. The maximum emissions of particulate matter from No.10 Units Shakeout operations shall be limited to 21.26 pounds per hour and 93.12 tons per year. §4-2; §4-57; §4-60

EMISSION UNIT 112 -- No.9 UNIT CASTING CLEANING

No.9 Unit Casting Handling (E018)

No.9 Unit Secondary Shakeout (E019)

No.9 Unit Casting Rotoblast Monorail & Table (E021)

Casting Cooling Conveyor (E132)

No.9 Unit Casting Automatic Cleaner (E133)

- 1.0. Combined emissions of particulate matter resulting from No.9 Unit Casting Cleaning operations shall not exceed 14.70 pounds per hour and 64.37 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. At all times during No.9 Unit Secondary Shakeout operations, an emissions capturing system shall be in operation to minimize fugitive emissions from this source.
 - 1.2. All captured emissions captured from No.9 Unit Secondary Shakeout shall be vented through the No.9 Unit Secondary Shakeout baghouse (CD006). This baghouse shall be in operation at all times during secondary shakeout operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.3. The maximum allowable particulate emissions from the No.9 Unit Secondary Shakeout baghouse (CD006) stack (S022) shall be 2.571 pounds per hour as calculated based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-2; §4-41, Rule 26.12; §4-57
 - 1.4. All capture emissions from the No.9 Casting Automatic Cleaner shall be vented through the No.9 Casting Automatic Cleaner Baghouse (CD007). This baghouse shall be in operation at all times during rotoblast operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.5. The maximum allowable particulate emissions from the No.9 Casting Automatic Cleaner baghouse (CD007) stack (S023) shall be 2.5 pounds per hour. This condition has been determined to be Reasonable and Proper Control by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-2; §4-41, Rule 27.3; §4-57
 - 1.6. All captured emissions from the No.9 Unit Rotoblast Monorail and Table shall be vented through the Pangborn Monorail and Rotoblast Table baghouse (CD008). This baghouse shall be in operation at all times during monorail and rotoblast table operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.7. The maximum allowable particulate emissions from the No.9 Unit Rotoblast Monorail and Table baghouse (CD008) stack (S024) shall be 2.362 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-2; §4-41, Rule 26.12; §4-57
 - 1.8. All captured emissions from the No.9 Casting Cooling Conveyor shall be vented through the No.9 Casting Cooling Conveyor baghouse (CD047). This baghouse shall

be in operation at all times during cooling conveyor operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57

- 1.9. The maximum allowable particulate emissions from the No.9 Casting Cooling Conveyor baghouse (CD047) stack (S090) shall be 0.10 pounds per hour. This condition is Reasonable and Proper control as determined by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 27.3; §4-57
- 1.10. Preventative maintenance on the No.9 Unit Secondary Shakeout baghouse (CD006), No.9 Casting Automatic Cleaner baghouse (CD007), Pangborn Monorail and Rotoblast Table baghouse (CD008), and the No. 9 Casting Cooling Conveyor baghouse (CD047) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures described in Condition 2.0 of the Conditions Applicable to the Entire Facility. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 1.11. Operation of the No.9 Unit Secondary Shakeout baghouse (CD006), No.9 Casting Automatic Cleaner baghouse (CD007), Pangborn Monorail and Rotoblast Table baghouse (CD008), and the No. 9 Casting Cooling Conveyor baghouse (CD047) shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 113 – No. 10 UNITS CASTING CLEANING

12' Rotoblast Table (E017)

- 1.0. The maximum emissions of particulate matter resulting from No.10 Unit Casting Cleaning operations shall be limited to 0.62 pounds per hour and 2.71 tons per year. Compliance with this emission limitation shall be achieved by the following:
 - 1.1. The exhaust from the 12' Rotoblast Table shall be vented through the Pangborn Large Casting Rotoblast baghouse (CD005). This baghouse shall be in operation at all times during operation of the rotoblast table except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.2. The maximum allowable particulate emissions from the Large Casting Rotoblast baghouse (CD005) stack (S018) shall be 1.735 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate.

§4-2; §4-41, Rule 26.12; §4-57

- 2.0. Preventative maintenance of the Pangborn Large Casting Rotoblast baghouse (CD005) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. *§4-57*

EMISSION UNIT 114 – GRINDING, FINISHING, & PRIMING

Casting Finishing Area No.1 (E084)

Casting Finishing Area No.2 (E085)

Casting Finishing Area No.3 (E086)

Casting Finishing Area No.4 (E087)

Primer Dip Coating Operation (E088)

- 1.0. The maximum emissions of particulate matter from Grinding, Finishing, and Priming operations shall be limited to 1.76 pounds per hour and 7.70 tons per year. §4-2; §4-57; §4-60
- 2.0. The volatile organic compound (VOC) content in all surface coatings used in the Primer Dip Coating Operation shall not exceed 3.5 pounds per gallon of coating, less water and exempt solvents, as delivered to the applicator. §4-2; §4-41, Rule 25.21; §4-57; §4-60
- 3.0. A log of the Primer Dip Coating Operation shall be maintained and shall reflect the date and quantity of coating delivered. §4-57

EMISSION UNIT 115 – CEMENT LINING BUILDING

Cement Mixing and Lining Stations (E089-E095)

Cement Lining Drying Ovens Nos.1, 3, and 4 (E096-E098)

No.1 and No.3 Dip Paint Lines (E099, E102)

Binks Spray Paint Booth (E100)

Large Fittings Paint Booth (E101)

Coating Drying Ovens Nos.1 and 3 (E103-E104)

- 1.0. The maximum emissions of particulate matter resulting from operations in the Cement Lining Building shall be limited to 1.05 pounds per hour and 4.6 tons per year. Compliance with this emission limitation shall be demonstrated by the following:

- 1.1. All captured emissions from the Binks Spray Paint Booth and the Large Fittings Paint Booth shall be vented through their respective dry filter systems (CD034 and CD035). These filter systems shall be in place at all times during paint booth operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
- 1.2. A visual inspection of the dry filters shall be conducted no less than one time per day of paint booth operation. A log of the filter inspections shall be maintained on site and available for inspection by Bureau representatives during normal business hours. Saturated filters shall be changed in a timely manner before paint booth operations resume.
- 1.3. The maximum allowable particulate emissions from the Large Fittings Paint Spray Booth exhaust stack (S068) shall be 0.03 pounds per hour. This emissions limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control. §4-8(e)(2)
- 1.4. Only natural gas may be burned as fuel in cement lining and coating drying ovens.

§4-2; §4-8; §4-57

- 2.0. The maximum emissions of sulfur dioxide (SO₂) from the drying ovens shall be limited to 0.002 pounds per hour and 0.009 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the drying ovens. §4-2; §4-57
- 3.0. The maximum emissions of nitrogen oxides (NO_x) from the drying ovens shall be limited to 0.35 pounds per hour and 1.53 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the drying ovens. §4-2; §4-57
- 4.0. The volatile organic compound (VOC) content of all coatings applied in the Cement Lining Building shall not exceed 3.5 pounds per gallon less water and exempt solvents as delivered to the applicator. A log shall be maintained of the data reflecting the date and quantity of coatings and cleaning solvents used during operations in the Cement Lining Building. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25.21; §4-57; §4-60

EMISSION UNIT 116 – SPECIAL COATINGS OPERATION

Special Coating Spray Booth (E105)

Special Coating Drying Oven (E106)

- 1.0. The maximum emissions of particulate matter resulting from the Special Coatings Operation shall be limited to 0.993 pounds per hour and 4.37 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the Special Coating Spray Booth shall be vented through the dry filter system (CD036). This filter system shall be in place at all times during spray booth operations.
 - 1.2. A visual inspection of the dry filters shall be conducted no less than one time per day of spray booth operation. A log of these filter inspections shall be maintained on site and available for inspection by Bureau representatives during normal business hours. Saturated filters shall be changed in a timely manner before spray booth operations resume.
 - 1.3. Only natural gas may be burned as fuel in the Special Coatings Drying Oven.

§4-2; §4-57
- 2.0. The maximum emissions of sulfur dioxide (SO₂) resulting from the Special Coating Drying Oven shall be limited to 0.008 pounds per hour and 0.04 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the Special Coating Drying Oven. §4-2; §4-57
- 3.0. The maximum emissions of nitrogen oxides (NO_x) resulting from the Special Coating Drying Oven shall be limited to 0.12 pounds per hour and 0.53 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the Special Coatings Drying. §4-2; §4-57
- 4.0. The volatile organic compounds (VOC) content of all coatings used in the Special Coatings Operation shall not exceed 3.5 pounds per gallon of coating less water and exempt solvents as delivered to the applicator. A log shall be maintained of the data reflecting the amount, date, and type of coatings and solvents used in the Special Coating Operation. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25; §4-57

EMISSION UNIT 118 – No.10 UNIT AIRSET MOLD SYSTEM

Pneumatic Sand Transporter to Mold Sand Silo (E040)

Sand Heaters (E041)

Sand Mixers (E042)

Mold Forming (E043)

- 1.0. The maximum emissions of particulate matter resulting from the No.10 Unit Airset Mold System shall be limited to 0.55 pounds per hour and 1.98 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from silo loading shall be vented through the No.10 Unit Mold Sand Tank baghouse (CD019). This baghouse shall be in operation at all times during the silo loading process except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-41, Rule 27; §4-57
 - 1.2. The maximum allowable particulate emissions from the No.10 Unit Mold Sand Tank baghouse (CD019) stack (S041) shall be 0.005 pounds per hour. §4-41, Rule 27
 - 1.3. The exhaust from pneumatic transport operations shall be vented through the No.10 Unit Mold Sand Heaters baghouse (CD020). This baghouse shall be in operation at all times during sand transport and sand heater operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-41, Rule 27; §4-57
 - 1.4. The maximum allowable particulate emissions from the No.10 Mold Sand Heaters baghouse (CD020) stack (S008B) shall be 0.01 pounds per hour. §4-41, Rule 27
 - 1.5. The exhaust from the No.10 Unit Mold Sand mixers shall be vented through the No.10 Unit Mold Sand Mixer No.1 baghouse (CD021) and No.10 Unit Mold Sand Mixer No.2 baghouse (CD022). These baghouses shall be in operation at all times during sand transport and sand heater operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-41, Rule 27; §4-57
- 2.0 Volatile organic compound emissions from the No. 10 Unit Airset Mold System shall be limited to 37.64 tons per twelve consecutive months. Compliance with this limitation shall be demonstrated through Condition 3.0. §4-41, Rule 25; §4-57
- 3.0 The total iron poured on No. 10 Unit shall not exceed 20,166 tons per consecutive twelve months. A monthly log of iron poured on No. 10 Unit shall be maintained. At a minimum, the log shall contain the date, the amount of iron poured for the month, the amount of iron poured for the previous twelve months, and the initials of the operator. §4-41, Rule 25, Rule 27; §4-57

EMISSION UNIT 119 – No.10 UNIT SAND RECLAMATION

Size Reduction Process (E036)

Classifier Process (E037)

MacCawber Pneumatic Sand Transporter to Reclaimed Sand No.1 Bulk Silo (E038)

MacCawber Pneumatic Sand Transporter to New Sand No.2 Bulk Silo (E039)

- 1.0. The maximum emissions of particulate matter resulting from the No.10 Unit Sand Reclamation process shall be limited to 0.064 pounds per hour and 0.23 tons per year. Compliance with this emission limitation shall be achieved by the following:
 - 1.1. All emissions from the sand reclaimer and size reducer shall be vented through the Fines Baghouse (CD016). This baghouse shall be in operation at all times during sand reclamation and size reduction except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the Fines Baghouse (CD016) stack (S037) shall be 0.02 pounds per hour. §4-41, Rule 27; §4-57
 - 1.3. All emissions from the classifier shall be vented through the Sand Reclaimer Classifier baghouse (CD017). This baghouse shall be in operation at all times during the clarification process except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.4. The maximum allowable particulate emissions from the Sand Reclaimer Classifier baghouse (CD017) stack (S038) shall be 0.02 pounds per hour. §4-41, Rule 27; §4-57
 - 1.5. All emissions from the loading of Reclaimed Sand No.1 and No.2 Bulk Silos shall be vented through the Bulk Sand Silo baghouse (CD018). This baghouse shall be in operation at all times during the loading of these silos except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.6. The maximum allowable particulate emissions the Bulk Sand Silo baghouse (CD018) stack (S040) shall be 0.01 pounds per hour. §4-41, Rule 27; §4-57
- 2.0. The total iron poured on No. 10 Unit shall not exceed 20,166 tons per consecutive twelve months. A monthly log of iron poured on No. 10 Unit shall be maintained. At a minimum, the log shall contain the date, the amount of iron poured for the month, the amount of iron poured for the previous twelve months, and the initials of the operator. §4-41, Rule 27; §4-57
- 3.0. Preventative maintenance of these baghouses (CD016-CD018) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57

EMISSION UNIT 120 – No.9 UNIT GREENSAND MOLD SYSTEM

Sand Conveying (E022)
Sand Screening Drum (E023)
Sand Return to Storage Silo (E024)
Greensand Mullors A and B (E025)
Herman Mold Machine (E026)
Binder Unloading to Storage Silo (E027)
Binder Conveying (E028)

- 1.0. The maximum emissions of particulate matter resulting from the No.9 Unit Greensand Mold System shall be limited to 12.98 pounds per hour and 54.16 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the sand screening drums shall be vented through the Sand Screening Drum Cyclones (CD009). These cyclones shall be in operation at all times during sand screening operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the Sand Screening Drum cyclones (CD009) stack (S025) shall be 0.75 pounds per hour. This emissions limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.3. Operation of the No.9 Unit Greensand Mold System shall not exceed 4000 hour in any 365-consecutive-day period. This limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.4. The exhaust from the loading of the Greensand Binder Storage Silo shall be vented through the No.9 Unit Greensand Binder Storage Silo bin vent filter (CD010). This bin vent filter shall be in operation at all times during silo loading except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.5. The exhaust from Binder Conveyor A shall be vented through the conveyor baghouse (CD012). This baghouse shall be in operation at all times during binder conveying operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.6. The exhaust from Binder Conveyor B shall be vented through the conveyor baghouse (CD013). This baghouse shall be in operations at all times during binder conveying operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.7. The maximum allowable particulate emissions from each binder conveyor baghouse (CD012-013) shall be 0.457 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57

EMISSION UNIT 121 – SHELL CORES PROCESS

Shell Core Sand Handling (E082)

Shell Core Heating (E083)

- 1.0. The maximum emissions of particulate matter from the Shell Cores Process shall be limited to 1.12 pounds per hour and 4.91 tons per year. *§4-41, Rule 10; §4-57; §4-60*
- 2.0. The maximum emissions of sulfur dioxide (SO₂) resulting from Shell Core Heating operations shall be limited to 0.001 pounds per hour and 0.005 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the shell core sand heater. *§4-2; §4-57*
- 3.0. The maximum emissions of nitrogen oxides (NO_x) resulting from Shell Core Heating operations shall be limited to 0.185 pounds per hour and 0.81 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the shell core sand heater. *§4-41, Rule 2; §4-57*

EMISSION UNIT 122 – AIRSET CORE SYSTEM

Airset Binder Bulk Storage Tank (E046)

Airset Acid Bulk Storage Tank (E048)

Pneumatic Conveying for Airset Core Sand Silo (E050)

Sand Heater (E051)

Sand Mixer (E052)

Core Forming (E053)

1.0. The maximum emissions of particulate matter resulting from the Airset Core System shall be limited to 5.314 pounds per hour and 23.28 tons per year. Compliance with this emission limitation shall be demonstrated by the following:

1.1. The exhaust from loading of the airset sand silo shall be vented through the Airset Core Sand Tank baghouse (CD023). This baghouse shall be in operation at all times during the airset sand silo loading process except in accordance with Condition 13.0 of the Conditions of General Applicability.

1.2. The exhaust from the sand heating process shall be vented through the Airset Core Heater cyclone (CD024) and Airset Core Sand Tank baghouse (CD023). This cyclone and baghouse shall be in operation at all times during the sand heating process except in accordance with Condition 13.0 of the Conditions of General Applicability.

1.3. The maximum allowable particulate emissions from the Airset Core Sand Tank baghouse (CD023) stack (S045) shall be 0.171 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate.

§4-2; §4-41, Rule 26.12; §4-57

2.0. Preventative maintenance for this baghouse and cyclone (CD023 and CD024) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business. *§4-57*

EMISSION UNIT 123 -- ISOCURE CORE SYSTEM

Isocure Part 1 Bulk Storage Tank (E054)
Isocure Part 2 Bulk Storage Tank (E057)
No.3 Bulk Sand Silo (E060)
No.3 and No.4 Isocure Sand Silo (E061)
No.5 Isocure Sand Silo (E062)
No.3, No.4, & No.5 Isocure Sand Heaters (E063-E065)
No.3, No.4, and No.5 Sand Mixers (E066-E068)
Isocure Machines No.3, No.4, & No.5 (E069-E071)
No.6 & No.7 Isocure Sand Silo (E122)
No.6 & No.7 Sand Heaters (E123-E124)
Isocure Machines No.6, No.7, & No.8 (E129-E131)

- 1.0. The maximum emissions of particulate matter from the Isocure Core System shall be limited to 1.26 pounds per hour and 5.52 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the loading of the No.3 Bulk Sand Silo (E060) shall be vented through the Farr Bulk Sand Silo baghouse (CD025). This baghouse shall be in operation at all times during silo loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.2. The maximum allowable particulate emissions from the Bulk Sand Silo baghouse (CD025) stack (S048) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. These stack emissions are combined emissions from Bulk Sand Silo loading (E060 of Emission Unit 123) and Pepset Sand Heater Operation (E077 of Emission Unit 124).
§4-41, Rule 26.12
 - 1.3. The exhaust from the loading of the No.3 and No.4 Isocure Sand Silo (E061) shall be vented through the No.3 and No.4 Isocure Sand Silo baghouse (CD026). This baghouse shall be in operation at all times during sand loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.4. The maximum allowable particulate emissions from the No.3 & No.4 Isocure Sand Silo baghouse (CD026) stack (S049) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate.
§4-41, Rule 26.12
 - 1.5. The exhaust from the loading of the No.5 Isocure Sand Silo shall be vented through the No.5 Isocure Sand Silo baghouse (CD027). This baghouse shall be in operation at all times during sand loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.6. All emissions from the sand heaters (E063-E065) shall be vented through the Sand Heaters cyclones (CD028-030) and the Sand Silo baghouses (CD026-027). These cyclones and baghouse shall be in operation at all times during sand heater operation except in accordance with Condition 13.0 of the Conditions of General Applicability.

- 1.7. The maximum allowable particulate emissions from the No.5 Isocure Sand Silo baghouse (CD027) stack (S050) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12
- 1.8. The exhaust from the loading of the No.6 & No.7 Isocure Sand Silo (E122) and the pneumatic transport of sand to the No.6 & No.7 Sand Heaters (E123-E124) shall be vented through the No.6 & No.7 Isocure Sand Silo baghouse (CD043). This baghouse shall be in operation at all times during silo loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-41, Rule 27; §4-57
- 1.9. The maximum allowable particulate emissions from the No.6 & No.7 Isocure Sand Silo baghouse (CD043) stack (S086) shall be 0.17 pounds per hour. §4-41; Rule 27; §4-57

These limitations and conditions have been determined to be reasonable and proper by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 27; §4-57

- 2.0. Preventative maintenance on these control devices (CD025-CD030) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 3.0. The maximum allowable emissions of volatile organic compounds (VOC) resulting from Isocure Core Machine Nos. 3, 4, 5, 6, 7, and 8 shall be 28.67 tons per rolling twelve months. Compliance with this emission limitation shall be demonstrated by the following:
 - 3.1. The total usage of isocure core resins shall not exceed 750,000 pounds in any 365 consecutive-day period.
 - 3.2. The weighted average of volatile organic compounds in unreacted resins shall not exceed 30.5% by weight as determined by U.S. EPA reference Method 24, Title 40 *Code of Federal Regulations* Part 60, Appendix A (July 1, 1996) and in accordance with §4-3 of the Chattanooga Air Pollution Control Ordinance.
 - 3.3. The total usage of triethylamine shall not exceed 45,000 pounds in any 365 consecutive-day period.
 - 3.4. Emissions of triethylamine from the isocure process shall be vented through the packed tower acid scrubbers. An operating pH for the acid scrubbers shall be maintained at or below 5.0 as measured at the scrubber drain. This pH reading shall be recorded daily in a log. This log shall be maintained on site and available for inspection by Bureau representative upon request during normal business hours.

This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25.3

- 4.0. The owner or operator of this source shall utilize appropriate methods and technology to control onsite gaseous emissions so as to prevent odors from these emissions from being detected beyond the plant property boundary. This condition has been determined to be reasonable and proper by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. *§4-41, Rule 12 (Local Only), Rule 23*

EMISSION UNIT 124 - PEPSET CORE MAKING

Pepset Binder Bulk Storage Tank (E073)

Pepset Acid Bulk Storage Tank (E075)

Pepset Sand Heater (E077)

Sand Mixer (E078)

Core Forming (E079)

- 1.0. The maximum emissions of particulate matter resulting from the pepset core making process shall be limited to 0.41 pounds per hour and 1.81 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the sand heater shall be vented through the Pepset Sand Heater cyclone (CD033) and the No. 3 Bulk Sand Silo baghouse (CD025). This cyclone and baghouse shall be in operation at all times during the pepset core making process except in accordance with Condition 13.0 of the Conditions of General Applicability.
§4-57
 - 1.2. The maximum allowable particulate emissions from the No.3 Bulk Sand Silo baghouse (CD025) stack (S048) shall be 0.01 pounds per hour. §4-2; §4-57
- 2.0. Preventative maintenance for the Pepset Sand Heater cyclone (CD033) and the No.3 Bulk Sand Silo baghouse (CD025) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours.
§4-57

EMISSION UNIT 125 – REFRACTORY COATING OPERATIONS

Refractory Coating (E072)

Flame-off (E081)

- 1.0. The maximum emissions of particulate matter resulting from Refractory Coating Flame-off operations (E081) shall be limited to 0.0003 pounds per hour and 0.002 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the flame-off burner. §4-2; §4-57; §4-60
- 2.0. The maximum emissions of sulfur dioxide (SO₂) resulting from Refractory Coating Flame-off operations (E081) shall be limited to 0.0003 pounds per hour and 0.002 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the flame-off burner. §4-2; §4-57; §4-60
- 3.0. The maximum emissions of nitrogen oxides (NO_x) resulting from Refractory Coating Flame-off operations (E081) shall be limited to 0.057 pounds per hour and 0.248 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the flame-off burner. §4-2; §4-57; §4-60
- 4.0. The maximum allowable emissions of volatile organic compounds (VOC) resulting from Refractory Coating operations (E072) shall be 24.74 pounds per hour and 49.49 tons per rolling twelve months. Compliance with this emission limitation shall be demonstrate by multiplying the amount of isopropanol used in the Refractory Coating operation by the emission factor of 2000 pounds of VOC per ton of isopropanol less 50 percent control efficiency for molds/cores subject to the flame-off process. §4-41, Rule 25; §4-57

EMISSION UNIT 126 – PACKAGING AND SHIPPING AREA

Asphalt Coating Bulk Storage Tank No.1 (E107)

Asphalt Coating Bulk Storage Tank No.2 (E108)

Touchup Coating (E109)

- 1.0. The maximum allowable emissions of particulate matter resulting from touchup coating operations shall not exceed 0.51 pounds per hour per spray gun. Compliance with this emission limitation shall be met by a zero percent opacity limitation for touchup coating operations. §4-41, Rule 10; §4-57
- 2.0. The volatile organic compound (VOC) content of all coatings used in the packaging and shipping area shall not exceed 3.5 pounds per gallon of coating less water and exempt solvents as delivered to the applicator. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25.2; §4-57
- 3.0. A log shall be maintained of the data reflecting the amount, date, and type of coatings and solvents used in the packaging and shipping area. §4-57

EMISSION UNIT 127 - ANCILLARY FITTING PLANT OPERATIONS

Cupola Baghouse Dust Solidification (E110)

Cupola Drying (E111)

Pattern Shop (E113)

Ladle Pre-heat (E114)

Bathhouse Boiler (E115)

Asphalt Hot Oil Heater (E116)

- 1.0. The maximum allowable emissions of particulate matter resulting from Cupola Baghouse Dust Solidification operations shall be 0.003 pounds per hour and 0.009 tons per year. This emission limitation shall be met by the following:

- 1.1. The exhaust from the pneumatic conveying of cupola dust in the Cupola Baghouse Dust Solidification process shall be vented through the Cupola Baghouse Dust Solidification baghouse (CD037). This baghouse shall be in operation at all times during Cupola Baghouse Dust Solidification operations.

This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57

- 2.0. The maximum combined emissions of particulate matter from these combustion sources (E111, E114, E115, & E116) shall be limited to 0.051 pounds per hour and 0.192 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in cupola drying operations. §4-2; §4-41, Rule 8.2; §4-57
- 3.0. An emission capture system shall be in operation at all times during Pattern Shop (E113) operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
- 4.0. All captured emissions from the pattern shop equipment shall be vented through the pattern shop cyclone (CD039). This cyclone shall be in operation at all times during pattern shop operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
- 5.0. The maximum allowable emissions of particulate matter from the pattern shop cyclone (CD039) stack (S078) shall be 3.86 pounds per hour and 16.9 tons per year based on a grain loading of 0.030 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.18; §4-57
- 6.0. Visual emissions inspection of the emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 7.0. The maximum combined emissions of sulfur dioxide (SO₂) resulting from these combustion sources (E111, E114, E115, & E116) shall be limited to 0.003 pounds per hour and 0.011 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. §4-2; §4-57
- 8.0. The maximum combined emissions of nitrogen oxides (NO_x) resulting from these combustion sources (E111, E114, E115, & E116) shall be limited to 0.466 pounds per hour

and 1.76 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. §4-2; §4-57

EMISSION UNIT 128 – FUSION BONDED EPOXY PROCESS

GLA Burn-off Oven with Afterburner (E123)

FBE Rotoblast Barrels (E134, E135, E136)

- 1.0. The maximum emissions of particulate matter from the FBE Rotoblast Barrels (E134, E135, E136) operation shall be limited to 2.45 pounds per hour and 10.73 tons per year. Compliance with this emissions limitation shall be met by the following:

- 1.1. All captured emissions from the FBE Rotoblast Barrels (E134, E135, E136) shall be vented through the FBE Rotoblast Barrels baghouse (CD048). This baghouse shall be in operation at all times during rotoblast table cleaner operation except in accordance with Condition 13.0 of the Conditions of General Applicability.
- 1.2. Operation of the baghouse shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility.

§4-2; §4-41, Rule 27.3; §4-57; §4-60

- 2.0. The maximum emissions of particulate matter from the GLA Burn-off Oven (E123) shall be limited to 0.10 pounds per hour and 0.438 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. This condition has been determined to be reasonable and proper control by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. *§4-2; §4-41, Rule 27.3; §4-57*
- 3.0. The maximum emissions of nitrogen oxides (NO_x) from the GLA Burn-off Oven and afterburner shall be limited to 0.60 pounds per hour and 2.63 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. *§4-41, Rule 2; §4-57*
- 4.0. The maximum emissions of sulfur dioxide (SO₂) from the GLA Burn-off Oven and afterburner shall be limited to 0.001 pound per hour and 0.0044 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. *§4-2; §4-57*
- 5.0. The maximum emissions of volatile organic compounds (VOC) from the GLA Burn-off Oven and afterburner shall be limited to 0.01 pounds per hour and 0.044 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
- 5.1. Only natural gas shall be burned as fuel in this equipment. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. *§4-41, Rule 25.3; §4-57*
- 5.2. All emissions resulting from the pyrolysis of epoxy coatings shall be vented through the GLA afterburner. This afterburner shall be in operation at all times during GLA oven operations. Operation of this oven and afterburner shall be in accordance with United States Pipe and Foundry Company, Inc.'s written plans and procedures, which

shall include the manufacturer's recommendations. This condition has been determined to be reasonable and proper control by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 23

EMISSION UNIT 206 – VALVE & HYDRANT PRODUCTION

Small Valve Paint Booth (EV022)
Large Valve Touchup Coating Operation (EV023)
Hydrant Production Paint Booth (EV024)

1.0. The maximum emissions of particulate matter resulting from valve product operations shall be limited to 0.47 pounds per hour and 2.03 tons per year. Compliance with this emissions limitation shall be demonstrated by the following:

- 1.1. All emissions from the Small Valve Paint Booth shall vented through the dry filter assembly (CDV06). These dry filters shall be in place and the exhaust fan operating at all times during this surface coating operation.
- 1.2. The maximum hourly stack emissions of particulate matter from the Small Valve Paint Booth stack (SV11) shall be limited to 0.006 pounds per hour.
- 1.3. All emissions from the Hydrant Production Paint Booth shall be vented through the dry filter assembly (CDV07). These dry filters shall be in place and the exhaust fan shall be operating at all times during this surface coating operation.
- 1.4. The maximum hourly stack emissions of particulate matter from the Hydrant Production Paint Booth stack (SV13) shall be limited to 0.022 pounds per hour.
- 1.5. A visual inspection of the dry filters shall be conducted no less than one time per day of paint booth operation. A log of the filter inspections shall be maintained on site and available for inspection by Bureau representative during normal business hours. Saturated filters shall be changed in a timely manner before paint booth operations resume.

§4-2; §4-57; §4-60

2.0. The volatile organic compound (VOC) content for all coatings used in valve and hydrant production shall not exceed 3.5 pounds per gallon of coating, less water and exempt solvents, as delivered to the applicator. A log shall be maintained containing the date and amount of coatings applied in these surface coating operations. This log shall be maintained on the premises and available for inspection upon request by Bureau representatives during normal business hours. These records shall be kept for a period of two years after the date of entry.
§4-2; §4-41, Rule 25.21; §4-57

EMISSION UNIT 207 – RESILIENT SEAT VALVE PRODUCTION

Pangborn Rotoblast Cleaner (EV025)

Pangborn Airblast Cleaner (EV026)

- 1.0. The maximum emissions of particulate matter resulting from Resilient Seat Valve Production shall be limited to 0.99 pounds per hour and 4.34 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the Pangborn Rotoblast Cleaner shall be vented through the RS Valve Cleaning baghouse (CDV08). This baghouse shall be in operation at all times during rotoblast cleaner operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the RS Valve Cleaning baghouse (CDV08) stack (SV14) shall be 0.219 pounds per hour based on a grain loading of 0.053 grains per dry standard cubic foot and the reported exhaust flow rate. This emission limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.3. The maximum allowable particulate emissions from the Airblast baghouse (CDV10) stack (SV15) shall be 0.771 pounds per hour based on a grain-loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57

EMISSION UNIT 208 – ANCILLARY VALVE & HYDRANT PLANT OPERATIONS

Lead Melting Kettles (EV031-EV032)
Resilient Seat Valve Burn-off Oven (EV033)
Hot Water Heaters No.1 & No.2 (EV034-EV035)
Special Coatings Paint Booth (EV036)

- 1.0. The maximum emissions of particulate matter from these ancillary operations shall be limited to 0.52 pounds per hour and 2.28 tons per year. Compliance with this emissions limitation shall be demonstrated by the following:
 - 1.1. The maximum allowable emissions of particulate matter from lead kettle heating shall be 0.17 pounds per hour. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the kettle burners. §4-41, Rule 8.1
 - 1.2. Emissions of particulate matter from the Resilient Seat Valve Burn-off Oven stack (SV21) shall not exceed 0.345 pounds per hour. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this oven. §4-41, Rule 8.1
 - 1.3. Hourly emissions of particulate matter from the Special Coatings Paint Booth stack (SV24) shall not exceed 0.002 pounds per hour. Compliance with this emission limitation shall be met by the following:
 - 1.3.1. All emissions from the Special Coatings Paint Booth shall be vented through the dry filter assembly (CDV12). These dry filters shall be in place and the exhaust fan operating at all times during booth operation.
 - 1.3.2. A visual inspection of the dry filters shall be conducted no less than one time per day of paint booth operation. A log of the filter inspections shall be maintained on site and available for inspection by Bureau representatives during normal business hours. Saturated filters shall be changed in a timely manner before paint booth operations resume.

§4-2; §4-57; Part 70 Permit Application Request by Permittee

- 2.0. The maximum emissions of sulfur dioxide (SO₂) shall be limited to 0.001 pounds per hour and 0.004 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in these combustion sources. §4-2; §4-57
- 3.0. The maximum emissions of nitrogen oxides (NO_x) shall be limited to 0.124 pounds per hour and 0.543 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in these combustion sources. §4-2; §4-57
- 4.0. The volatile organic compound (VOC) content for all coatings used in the special coatings paint booth shall not exceed 3.5 pounds per gallon of coating, less water and exempt solvents, as delivered to the applicator. A log shall be maintained containing the date and amount of coatings applied in these surface coating operations. §4-41, Rule 25.21; §4-57

EMISSION UNIT 301 – SOLID WASTE LANDFILL

- 1.0. Visible emissions from material-handling operations at the solid waste landfill shall not exceed an opacity of ten percent for an aggregate of more than fifteen minutes in any one hour or more than sixty minutes in any twenty-four-hour period. *§4-41, Rule 26.11; §4-57*
- 2.0. Visible emissions, other than those from material handling operations shall not exceed an opacity of ten percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. *§4-41, Rule 3.1; §4-57*



U.S. PIPE & FOUNDRY COMPANY, INC.

2501-2701 Chestnut Street
Chattanooga, TN 37408-2803
Telephone: 423-752-3825
Fax: 423-752-3927
September 3, 2003

Mr. Robert H. Colby, Director
Chattanooga Hamilton County
Air Pollution Control Bureau
Development Resource Center
1250 Market Street, Suite 3020
Chattanooga, TN 37402-4443



Re: Part 70 Permit No. 47-065-3321 Renewal Application

Dear Mr. Colby:

Please find attached the Part 70 Permit renewal application for U.S. Pipe and Foundry Company, Inc. - Chattanooga V&F Operations. If you have any questions regarding this application, please contact me at 752-3825.

Sincerely,

A handwritten signature in dark ink, appearing to read "Diederich", written over a horizontal line.

David J. Diederich, Operations Manager
U.S. Pipe and Foundry Company, Inc.

Attachment

Cc: Mr. Stuart Box
Mr. Ben Noble
Mr. John Pleasant

Benzene Sulphonic Acid (BSA) Spill Incident Report

**U.S. Pipe & Foundry Co.
2501 Chestnut St.
Chattanooga, TN 37408**

On July 3, 2004 at approximately 11:05 pm third shift maintenance employees for US Pipe discovered a spill from the BSA storage tank for the Unit 10 production area. The employees were reporting to work when they discovered the spill. As the plant was involved in a scheduled shutdown, no second shift employees were on site. The last personnel in the Unit 10 area were maintenance employees that left the plant at approximately 5:30 pm the same day. The spill had apparently occurred between the times the first shift employees left the plant and the third shift employees arrived. The spill was apparently caused by the failure of a hose clamp on the BSA delivery system. The employees immediately started an assessment of the situation. They notified Danny Jennings, Plant Environmental Engineer at approximately 11:15 pm, who started in route to the plant.

The initial assessment found that the employees had stopped the leak and placed sand dikes at strategic locations to prevent further migration of the spilled product. Much of the leak had migrated from the production building through a paved alley between buildings and onto the paved access road on the west side of the production facility. A small amount from the paved road ran onto a dirt area immediately adjacent to the paved access road. US Pipe employees started placing caustic soda on the spilled product to neutralize the acid. Mr. Jennings contacted Marion Environmental Inc, an emergency response contractor at 11:53 pm to assist with the cleanup operations. Marion Environmental started mobilization efforts and a site supervisor was dispatched directly to the scene.

The Marion Environmental Inc supervisor arrived on scene at approximately 1:00 am. In a meeting with MEI and US Pipe, it was estimated that approximately 2,000-3,000 gallons of BSA had leaked from the tank (subsequent review of inventory records showed 26,000 lbs on hand or around 2,400 gallons). An MSDS was provided to MEI for review with their response team. At this time US Pipe employees were checking storm water drains for potential migration of the product into the drainage system. One drain was found to have a very small amount (less than one quart). The product was neutralized and a berm was installed around the drain to prevent further contamination of the drain. Inspection of the storm water drain down gradient showed no signs of contamination. A berm was also placed around the down gradient storm water drain as a precautionary measure even though the topography did not favor direct entry of spilled product. The MEI response team arrived on site at 1:15 am and assisted US Pipe employees with the neutralization efforts currently in progress on the paved access road. Mr. Jennings and the MEI supervisor proceeded NPDES Permit TN0002429 storm water outfalls 001 and 002, located at Tennessee River mile makers 461.3 and 461.2 respectively to check for possible migration in the Tennessee River. No evidence was found at the outfalls of any migration into the environment.

Once the product on the paved access road was neutralized, US Pipe employees, under the direction of MEI supervisors began solidification of the material. MEI employees constructed a laydown area with polyethylene for storage of the solidified material. As the US Pipe employees were removing the solidified area product, MEI personnel focused their efforts on neutralizing product that pooled behind a dike in the paved, covered alley perpendicular to the access road. MEI contacted the National Weather Service in Morristown. According to the forecaster, the best chance for showers was after sunrise. At approximately 4:00 am, a very light, intermittent, sprinkle of rain started to fall. Based on apparently degrading weather conditions, and the length of time involved in solidifying the material, it was determined the best course of action would be to recover the remainder of the neutralized material as liquid. MEI mobilized a vacuum truck to the site and made arrangements for a frac tank to be delivered to the site for liquid storage. All of the dikes were raised in anticipation of rain. At 5:45 am heavy rain fell at the US Pipe plant. MEI personnel focused on keeping the product and subsequent rain water contained in the covered alley. A check of outfall 001 at 5:58 revealed a pH of 3.5 indicating that some material had escaped into the river. The conveyance for this outfall had been dry on all previous checks prior to the heavy rain.

It should be noted that until this point, notification had not been made to local or state authorities. The leak had stopped and the vast majority of the spill had been contained either in the production building or on pavement well within the Plant's boundaries. Upon detection of the lowered pH reading at outfall 001, Mr. Jennings started notification of authorities since the material had apparently left the Plant site and entered the Tennessee River. The notification was made as a precaution since there was no way to accurately determine how much BSA was discharged to the river. It is felt this amount was less than 100 gallons. The National Response Center was notified at 7:25 am and assigned number 727155 to the incident. The Tennessee Department of Environment and Conservation was notified at 7:48 am, however only a recording was received. Mr. Jennings called the Tennessee Emergency Management Agency at 7:52 am as per the TDEC recording. TEMA handled the notification to TDEC and the local authorities and assigned the incident number 1028.

During and after the rain event, MEI employees continued to neutralize and capture material in the covered alley. Remediation continued in the direction of the original spill area.

At 12:00 noon members of local, state and federal agencies were on site for a meeting and site review of the spill. Personnel in attendance were Danny Jennings, Stuart Box, and Bruce Clements from US Pipe; Jeremy Swilley and Timothy McDonald from City of Chattanooga Storm Water; Chuck Nichols and Jack Spurling from Chattanooga Fire Department; Joe Hartman from Tennessee Department of Environment and Conservation; Rip Rohen from Hamilton County Emergency Services and Glenn Adams, US EPA Region IV OSC.

After reviewing the site, the following recommendations were made.

1. Dikes of sand should be replaced with dikes constructed of sand placed on polyethylene
2. All spill areas should be pressure washed and the rinse aid from the washing collected with the vacuum truck.
3. Solid material should be placed in roll off boxes and covered as soon as possible.

The dikes were replaced immediately after the conclusion of the meeting. MEI continued cleanup efforts and started pressure washing of the spilled areas at approximately 2:00 pm on the afternoon of the 4th. Pressure washing continued until completed at approximately midnight on the 4th which concluded the initial response actions.

Roll off boxes were delivered to the site on the morning of July 5th and US Pipe employees loaded the stock piled contaminated material into the roll offs. Once loaded, the boxes were covered. Currently there are four roll off boxes and one frac tank on site. Samples of the material have been submitted for laboratory testing to determine the wastes' characteristics. Based on lab analysis, proper disposal will be carried as soon as sample analysis is complete and the waste streams can be profiled into the appropriate TSDF. Once disposal is complete, the incident will be considered complete.

To prevent such an incident from recurring, the BSA delivery system will not be used until corrective measures can be determined and implemented. Any questions or queries should be directed to Danny Jennings, US Pipe, 423-752-3912 or djennings@uspipe.com

July 9, 2004

Richard D. Urban, Ph.D.
Division of Water Pollution Control
Chattanooga Environmental Assistance Center
540 McCallie Ave., Suite 550
Chattanooga, TN 37402-2013

Re: U. S. Pipe and Foundry Company
NPDES Individual Permit No. TN0002429
NPDES General TMSP No. TNR051749 & TNR051750

Dear Dr. Urban:

Pursuant to your letter of June 8, 2004, U. S. Pipe and Foundry Company has enclosed a Corrective Action Plan for your review and consideration.

U. S. Pipe would like to thank the Division for their assistance and is anxious to eliminate any deficiencies in our Storm Water Pollution Prevention Program. U.S.Pipe is aggressively pursuing these deficiencies by already taking steps as outlined in the enclosed Corrective Action Plan (CAP). Included in the CAP is a \$216,000 Capital Appropriation Request, which we feel will make significant strides in bring U. S. Pipe in full compliance.

If you have any questions, please feel free to contact Mr. Danny Jennings at (423)752-3912.

Very Respectfully,

David J. Diederich

enclosure

cc: Environmental Protection Agency, Clean Water Act Enforcement Section, Atlanta Federal
Center, 61 Forsyth Street, SW, Atlanta, GA 30303

Division of Water Pollution Control, Enforcement and Compliance Section, Nashville Central
Office

Division of Water Pollution Control, Permit Section, Nashville Central Office

MWPS011830

U. S. Pipe and Foundry Company

2501 Chestnut Street
Chattanooga, Tennessee 37408

Corrective Action Plan

resulting from

Compliance Evaluation Inspection (CEI) of June 3, 2004

Finding 001 – Records and Reports

Description:

Records of quarterly visual monitoring were found only for Q1 and Q2 of 2002 and Q3 and Q4 of 2003. No other records were found.

Corrective Action:

Efforts are being made to ensure that a sufficient number of monitoring events are recorded during this calendar year. A Quarterly Visual Monitoring Report was filed on 6/15/04 during the next qualifying rain event occurring during daylight hours. In addition, U. S. Pipe has enclosed some additional Quarterly Visual Monitoring Reports filed on 11/05/02 and 10/02/02. These reports are enclosed in Appendix A for your review and consideration.

Proposed Corrective Action Date:

U. S. Pipe and Foundry Company will have completed at least four Visual Monitoring Reports by December 31, 2004.

Finding 002 – Records and Reports

Description:

Records of quarterly site inspections were found only for Q1 of 2004. No other records were found.

Corrective Action:

U. S. Pipe and Foundry has had a recent management change with the installation of Mr. Danny Jennings as the Facility Environmental Coordinator. Mr. Jennings is making significant progress in identifying and correcting any deficiencies in U.S. Pipe and Foundry's Environmental Management Systems. Mr. Jennings has initiated an inspection program that is in accordance with the NPDES Permits No. TNR051749 and 50. Evidence of this new inspection program was found during the CEI of June 3, 2004. A second quarter site inspection has been conducted and filed with the SWPPP.

Proposed Corrective Action Date:

U. S. Pipe and Foundry Company will continue with the existing inspection program and will have completed at least four Quarterly Site Inspections by December 31, 2004.

Finding 003 – Facility Site Review

Description:

Outfall S001 at the Fittings plant has been eliminated but still appears on the site map.

Corrective Action:

Outfall S001 was eliminated during the implementation of engineering controls at the Fittings Plant to help reduce storm water pollution. U.S.Pipe and Foundry contracted with an outside consulting firm in May 2004 to revise and update the existing SWPPP. The revision of the SWPPP, including a new site map, is currently in progress and should be completed by July 31, 2004.

Proposed Corrective Action Date:

SWPPP and new site map to be completed no later than August 16, 2004.

Finding 004 – Facility Site Review

Description:

Wastewater/storm water discharge from Outfall 001(NPDES Permit No. TN0002429) leaves the plant toward I-24 but does not appear in the channel where it is supposed to flow into the Tennessee River. This discontinuity appears to have happened after I-24 expansion. The facility needs to identify the course and fate of this wastewater/storm water discharge.

Corrective Action:

U. S. Pipe and Foundry Company has contracted with an outside consulting firm to investigate the flow from Outfall 001.

Proposed Corrective Action Date:

Work to investigate the flow from Outfall 001 is scheduled for the week of July 5, 2004. Report on findings to be submitted by July 31, 2004.

Finding 005 – Facility Site Review

Description:

The facility needs to clearly identify the outfalls. Once the actual outfalls are identified, the site maps need to be updated.

Corrective Action:

U.S. Pipe feels that current Site Maps contained in the SWPPP clearly identify the location of the outfalls, the exception of S001 at the Fittings Plant. However, U.S.Pipe will implement the suggestions contained in the CEI and include GPS coordinates with the revision to the SWPPP and Site Map.

Proposed Corrective Action Date:

SWPPP revision to be completed no later than August 16, 2004.

Finding 006 – Effluent/Receiving Waters

Description:

The Storm Water Monitoring Reports have shown continuous exceedences of cut-off concentrations of various pollutants at all outfalls. Storm water for Outfall S002 of the Fittings Plant has the highest levels of pollutants (Al, TSS, Fe, Zn and COD)

Corrective Action:

U. S. Pipe and Foundry Company has submitted a Capital Appropriations Request for approximately \$216,000 to address the storm water issues believed to be the major contributors to the continuous exceedences of the cut-off concentrations. The Capital Appropriations Request will address the following engineering controls:

- Sand from the Unit 9 Sand Drum Area and Sand Bins located at the south end of the Fittings Plant are exposed to storm water resulting in potentially significant storm water pollution. This project proposes to erect a roof over the Unit 9 Sand Drum Area to protect this area from storm waters and reduce the amount of sand and other potential pollutants from being carried off by storm water.
- The two sand bins located at the south end of the fittings plant are to be relocated under the new shed roof at Unit 9 Sand Drum Area, thereby eliminating a source of potential pollutants being exposed to storm waters.
- Another source of potential storm water pollutants is located at the Isocure Sand Car Unloading Area. This project proposes to extend the roof at the Isocure Sand Car Unloading Area in both directions over the railroad tracks to protect potential spills from impacting the storm water runoff.
- This project also proposes to add paving at critical areas exposed to potential spills and accumulation of sand and other pollutants to allow for more thorough cleaning and sweeping of the areas.
- Modification of the Cupola Slag Bin to reduce storm water impact.

Proposed Corrective Action Date:

It is anticipated that the above engineering controls will be completed by the end of the fourth quarter, 2004.

Finding 007 – Self-Monitoring Program**Description:**

The facility conducted one visual site inspection in March 2004. However, there was no follow-up.

Corrective Action:

The revised SWPPP will incorporate procedures for conducting quarterly visual site inspections with provisions for implementing Corrective Actions with tracking or follow-up procedures.

Proposed Corrective Action Date:

The SWPPP is currently being revised and will be completed no later than August 16, 2004

Finding 008 – Self-Monitoring Program**Description:**

The facility has no records of the required Annual Comprehensive Site Compliance Review.

Corrective Action:

In December of 2002 and November of 2003, as a result of sampling events, U.S. Pipe and Foundry's Storm Water Pollution Prevention Team conducted a Comprehensive Site Compliance Evaluation. The results of these evaluations were documented to letters to the Chattanooga Environmental Assistance Center. These documents are attached in Appendix B for your review and consideration.

The revised SWPPP will make provisions for a more formalized Comprehensive Site Compliance Evaluation as specified in Section F(3)(a)(4).

Annual Comprehensive Site Compliance Reviews will be filed with the SWPPP and maintained accordingly.

Proposed Corrective Action Date:

The SWPPP is currently being revised and will be completed no later than August 16, 2004

Finding 009 – Operation and Maintenance**Description:**

The drainage area of Outfall 002 of the Fittings Plant is poorly maintained and different materials (spilled sand, slag in pit) are exposed to storm water.

Corrective Action:

See Corrective Action for Finding 006 (Effluent/Receiving Waters) above

Proposed Corrective Action Date:

Proposed Engineering Controls to be completed no later than the end of the fourth quarter 2004.

Finding 010 – Operation and Maintenance**Description:**

The west area of the Fittings Plant (adjacent to I-24) around Outfall S004 has black-coated fittings. The coating – a black tar like residue – is staining the ground and the surrounding vegetation. This material/product is not allowed to be exposed/released to storm water unless it is cured in advance.

Corrective Action:

Work Instruction for touch-up painting of fittings has been modified to prevent uncured paint from impacting storm waters. The Work Instructions will ensure that fittings are not painted outside when there is a possibility that precipitation could occur before the paint has adequate time to cure. Upon completion of the modifications to the Work Instructions, the employees responsible for the touch-up painting will be provided with additional training on the Work Instructions and Storm Water Pollution Prevention.

Proposed Corrective Action Date:

The Work Instruction was modified on June 25, 2004 (See Appendix C). Training of employees on the Work Instruction to be completed by July 23, 2004

Finding 011 – Operation and Maintenance**Description:**

The drainage area of Outfall S002 of the Fittings Plant is poorly maintained and different materials (spilled sand, slag in pit) are exposed to storm water. This area needs immediate clean-up.

Corrective Action:

A contract with an outside contractor was signed the day of the CEI to clean the area in question. A copy of the invoice is included in Appendix C. Additional clean up services were subsequently contracted for this area and others within the plant. Copies of the purchase orders are also included in Appendix C.

In addition, US Pipe has purchased a second road sweeper (approximately \$60,000) and has hired an additional employee to allow both road sweepers to operate simultaneously. See Appendix C.

Proposed Corrective Action Date:

Site clean up is an on-going task. The areas addressed in the CEI have been addressed. However, continued emphasis will be made in this area.

Finding 012 – Storm Water Pollution Prevention Plan**Description:**

The SWPPP's are not signed and the SWPPP's do not contain a Non-Storm Water Certification.

Corrective Action:

The SWPPP's are being revised to comply with all requirements of TMSP General Storm Water Permit and will be reviewed and signed by the authorized plant official.

Proposed Corrective Action Date:

The SWPPP are currently being revised and will be ready for review and implementation by August 16, 2004.

Finding 013 – Pollution Prevention**Description:**

The facility does not have an inventory of materials handled and associated potential of release to storm water.

Corrective Action:

The SWPPP's are being revised to comply with all requirements of TMSP General Storm Water Permit

Proposed Corrective Action Date:

The SWPPP are currently being revised and will be ready for review and implementation by August 16, 2004

Finding 014 – Pollution Prevention**Description:**

During the CEI, potential non-storm discharges (e.g. blowdown, water hose, etc.) in the Fittings Plant draining into Outfall S002. The facility had failed to identify the sources of non-storm discharges.

Corrective Action:

The blowdown from the air compressor was addressed the day after the CEI. A tote was placed at the compressor and the blowdown was directed into the tote for later disposal to the POTW. It was determined that the hose in question is from a storm water discharge pump, pumping storm waters from a collection sump.

During the revision of the SWPPP's, a detailed inspection of the plant will be conducted for the purpose of identifying any non-storm water discharges.

Proposed Corrective Action Date:

The SWPPP are currently being revised and will be ready for review and implementation by August 16, 2004

Signed: _____
David J. Diederich

Title: _____
Plant Manager

Date: _____

Appendix A
Quarterly Visual Monitoring Reports

U. S. PIPE & FOUNDRY COMPANY
Chattanooga, Tennessee

Storm Water Event

Date: 10/07/-2

Time: 7:30 AM

Observed by: John S. Coulter, P.E., E. Roberts Alley & Associates

Total Rain Fall during sampling event: 0.62 inches

Valve Plant

S01 - Water was clear with no odors or color. Red particles were observed around the outfall on rocks and other miscellaneous materials.

S02 - Water was clear with no odors, color or other indicators of pollutants

S03 - Water was clear w/ a slight brownish color. Some solids were observed in the sample

Fittings Plant

S01 - Water was dark gray with heavy solids content. Bales were missing at outfall.

S02 - Water was dark gray with heavy solids content. Bales were in place but storm waters appeared to be going around the bales. Recommend extending the bales in both directions.

S03 - Slight to moderate solids content. Hay bales appears to be removing a significant amount of of solids. Light gray in color.

S04 - Hay bales in good shape. Water was clear w/ slight brownish/gray color

S05 - Hay bales in good shape. Water was slightly cloudy w/ slight brownish/gray color

Landfill

S01 - No flow

S02 - Water was clear with no odors, color or other indicators of pollutants

S03 - Cloudy w/ brownish/gray color. Foam was present at outfall. Heavy vegetation growth.

S04 - No flow

S05 - Slightly cloudy w/ brownish/gray color.

**U. S. PIPE & FOUNDRY COMPANY
Chattanooga, Tennessee**

Storm Water Event

Date: 11/05/02

Time: 6:45 AM

Observed by: John S. Coulter, P.E., E. Roberts Alley & Associates

Total Rain Fall during sampling event: 1.37 inches

Valve Plant

S01- Water was clear with no odors or color. Red particles were observed around the outfall on rocks and other miscellaneous materials.

S02 - Water was clear with no odors, color or other indicators of pollutants

S03- Water was clear w/ a slight brownish color. Some solids were observed in the sample

Fittings Plant

S01 - No flow. Break in curbing has been repaired

S02 - Water was dark gray with heavy solids content. Bales were in place and looked to be in good shape. Flow was somehow going under or around the bales. Area has been cleaned up considerably since the last inspection. Storage piles of used sand have been removed.

S03 - Slight to moderate solids content. Hay bales appear to be good shape, removing a significant amount of of solids. Light gray in color. Visually appears better than previous samples.

S04 - Hay bales in good shape. Water was clear w/ slight brownish/gray color

S05- Hay bales in good shape. Water was slightly cloudy w/ slight brownish/gray color

Landfill

S01 - No flow

S02 - Water was clear with no odors, color or other indicators of pollutants

S03 - Light gray color, Catch basin has been cleaned out since last inspection.

S04 - No flow

S05 - Slightly cloudy w/ brownish/gray color.

Appendix B
Annual Comprehensive Compliance Review

Appendix B-0

MWPS011841

December 2, 2002

Richard Urban
Division of Water Pollution Control
540 McCallie Ave, Suite 550
Chattanooga, TN 37402

Re: U.S. Pipe and Foundry Company
TMSP No. TNR051749 and TNR051750

Dear Mr. Urban:

Pursuant to Section F.5 and L.5 of Tennessee's Storm Water Multi-Sector General Permit for Industrial Activities, U. S. Pipe and Foundry, by copy of this letter, is notifying you that our annual sampling of storm water showed exceedances in the Cut-Off Concentrations of various pollutants as illustrated in the tables below.

Fittings Plant – TMSP No. TNR051749

Pollutants of Concern	Cut-Off Concentration	01	02	Outfall 03	04	05
Aluminum	0.75		220	4.5	2.4	15
TSS	200		14000	180	88	390
Copper	0.0636		0.34	0.1	0.045	0.22
Iron	5.0	No Flow	140	19	3.9	18
Zinc	0.395		4.2	1.2	0.32	1.9
COD	120		2000	500	110	160

Valve Plant – TMSP No. TNR051749

Pollutants of Concern	Cut-Off Concentration	01	02	Outfall 03
Aluminum	0.75	0.13	<0.10	2.5
TSS	200	5.5	1.2	85
Copper	0.0636	<0.010	0.013	0.40
Iron	5.0	0.21	0.039	26
Zinc	0.395	0.063	0.036	0.46
COD	120	<20	<20	59

Landfill – TMSP No. TNR051750

Pollutants of Concern	Cut-Off Concentration	01	02	Outfall 03	04	05
Aluminum	0.75		0.15	4.0		1.3

Appendix B-1

MWPS011842

TSS	200	No Flow	10	100	No Flow	30
Iron	5.0		1.6	7.4		1.9
Magnesium	0.0636		52	7.7		13

After reviewing the storm water analysis, the Storm Water Pollution Team believes that the most likely cause of the exceedances are as follows:

- Fittings Plant – The areas around outfall 02 and 03 have been used in the past to stockpile used foundry sand and miscellaneous castings. It is believed that this use has resulted in the high readings for the pollutants of concern. In addition, the straw bales and silt fences erected to control runoff were being by-passed by storm water by either going around or under the barriers.
 - Proposed modifications to the SWPPP - US Pipe proposes to construct a settling chamber with a rock check at outfalls 02 and 03 in order to remove the solids from the storm water. This should also make the existing storm water barriers more effective by preventing the storm water from migrating around the barriers instead of flowing through the barriers. It is projected that this will be completed by the end of the first quarter of 2003.
- Fittings Plant – The high readings associated with outfalls 03, 04 and 05 are most likely attributed to the poor performance of the street sweeping machine.
 - Proposed modification to the SWPPP - The street sweeping machine is to be repaired and maintained in good working order. A concerted effort will be maintained to keep the areas subject to storm water cleaned on regular basis by the street sweeper. The street sweeper is to be repaired and in full operations by the end of January 2003.
- Landfill – Outfall 02 – This is the first time for monitoring magnesium and the Storm Water Pollution Prevention Team is unsure about the cause of the high magnesium. The team proposes to conduct additional sampling in 2003 to determine if there is a problem with this pollutant.
- Landfill – Outfall 03 – This outfall has been cleaned out recently and it is believed that cleaning operations may have disturbed the surrounding soil around the outfall.
 - Proposed modification to the SWPPP – erect storm water barrier to control silt and other solids from discharging to the outfall.
- Landfill – Outfall 05 - The settling pond is filling with solids and is not as effective as it should be in removing solids.
 - Proposed modifications to the SWPPP – The retain/settling pond at outfall 05 is to be relocated and enlarged to provide better solids retention. It is projected that this modifications will be completed in 2003.
- Valve Plant – Outfall 03 The high reading associated with outfall 03 is most likely attributed to the poor performance of the street sweeping machine.
 - Proposed modification to the SWPPP – The street sweeping machine is to be repaired and maintained in good working order. A concerted effort will be maintained to keep the areas subject to storm water cleaned on a regular basis by the street sweeper. The street sweeper is to be repaired and in full operations by the end of January 2003.

U. S. Pipe feels that the implementation of these recommendations is a good start in rectifying our storm water problems. It is our intention to make all necessary changes to the Storm Water Pollution Prevention plans and to implement these recommendations as soon as possible.

Your help in this matter is greatly appreciated. If you have any questions, please feel free to contact me at (423) 752-3910.

Very Respectfully,

Jim Book

October 10, 2003

Richard Urban
Division of Water Pollution Control
540 McCallie Ave, Suite 550
Chattanooga, TN 37402

Re: U.S. Pipe and Foundry Company
TMSP No. TNR051749 and TNR051750

Dear Mr. Urban:

Pursuant to Section F.5 and L.5 of Tennessee's Storm Water Multi-Sector General Permit for Industrial Activities, U. S. Pipe and Foundry, by copy of this letter, is notifying you that our annual sampling of storm water showed exceedances in the Cut-Off Concentrations of various pollutants as illustrated in the tables below. The left hand column for each outfall shows the exceedances in red and the right hand column for each outfall shows the percent increase or decrease from the 2002 Annual Storm Water Monitoring Report.

Fittings Plant – TMSP No. TNR051749

Pollutants of Concern	Cut-Off Concentration	Outfall			
		002		005	
		(mg/L)	% Δ over 2002 Sample	(mg/L)	% Δ over 2002 Sample
Aluminum	0.75	14.0	-94%	1.1	-93%
TSS	200	330	-97%	33	-92%
Copper	0.0636	0.064	-81%	0.020	-91%
Iron	5.0	18	-87%	2.8	-84%
Zinc	0.395	1.2	-71%	0.15	-92%
COD	120	250	-88%	49	-75%

Valve Plant – TMSP No. TNR051749

Pollutants of Concern	Cut-Off Concentration	Outfall	
		003	
		(mg/L)	% Δ over 2002 Sample
Copper	0.0636	0.12	-70%

Landfill – TMSP No. TNR051750

Outfall	
003	005

of Concern	Concentration		% Δ over		% Δ over	
		(mg/L)	2002 Sample	(mg/L)	2002 Sample	
Aluminum	0.75	3.9	-2.5%	6.8	+423%	
Copper	0.0636	0.092	-	0.030	-	
Iron	5.0	10.0	+35%	5.3	+179%	
Magnesium	0.0636	4.6	-40%	3.8	-71%	
TSS	200	150	+50%	120	+300%	
Zinc	0.395	0.58	-	0.69	-	

As can be seen in the Tables above, U. S. Pipe and Foundry has made significant improvements in the quality of its storm water compared to the 2002 Annual Storm Water Monitoring Report. With the exception of Outfall 003 and 005 at the Landfill, every pollutant that was found to be in exceedance of the Cut-Off Concentration showed at least a 70% reduction compared to 2002.

After reviewing the storm water analysis, the Storm Water Pollution Team believes that the most likely cause of the exceedances are as follows:

- Fittings Plant - The modifications to Outfall 002 that were implemented in late 2002/early 2003 have proven somewhat successful. However, high solids are still permeating the hay bales being used as a storm water filter.
 - U.S. Pipe proposes to continue the general plant clean-up program initiated in 2002. The hay bales at 002 are to be replaced and reworked in order to reduce the amount of solids discharging to the outfall.
- Landfill – Vegetation growth around Outfall 003 appears to be healthy and is doing a good job in reducing the amount of solids being discharged at 003. However, there is still a good amount of solids still being discharged with the storm water. Outfall 005 discharges from a holding pond and looked fairly clean with minimum solids content. The laboratory analysis was unexpected due to the visual clarity of the sample.
 - U.S. Pipe proposes to encourage vegetation growth around Outfall 003 through additional plantings and proactive landscaping. Hay-bales are to be added along the roadway at Outfall 003 to prevent solids from washing off the road into the outfall. The area around Outfall 005 between the holding pond and the river is to be cleaned up to remove as much of the solids as possible.
- Valve Plant – Although copper exceeded the cut-off concentration, it was significantly below levels detected in 2002.
 - U.S. Pipe proposes to continue the general plant clean-up program initiated in 2002. It is hoped that through this continued emphasis on clean-up, that further reductions in storm water pollutants will be realized.

Your help in this matter is greatly appreciated. If you have any questions, please feel free to contact me at (423) 752-3910.

Very Respectfully,

Appendix C

Invoices

06/28/2004 MON 11:30 FAX 4237523950 us pipe

002/002

PROCTORS CONTRACTORS

510 Mohawk Trail
Rossville, Ga. 30741
(706) 866-6999
Fax (706) 866-1826

JUNE 3, 2004

Invoice No. 060304

P.O. No.:

U. S. PIPE AND FOUNDRY
2701 CHESTNUT ST.
CHATTANOOGA, TN. 37401

ATTENTION: ROY BLEVINS

WORK DESCRIPTION: CLEAN AROUND BLENDING DRUM AND CORE ROOM

11.5 HRS BACKHOE	\$45.00 PER HOUR	\$517.50
11.5 HRS BOBCAT	\$40.00 PER HOUR	\$460.00
11.5 HRS LABOR	\$20.00 PER HOUR	\$230.00
8 HRS TRUCK	\$45.00 PER HOUR	\$270.00

TOTAL INVOICE AMOUNT \$1,477.50

TERMS NET 45 DAYS

WE APPRECIATE YOUR BUSINESS

07/01/2004 THU 10:05 FAX 4237523950 us pipe

0006/006



United States Pipe and Foundry Company, Inc.
3300 First Avenue North
BIRMINGHAM, AL 35222

Page 1 of 1

Purchase order

Bill To:
ATTN: ACCOUNTS PAYABLE
United States Pipe and Foundry Company, Inc.
3300 First Avenue North
BIRMINGHAM, AL 35222

Vendor Address:
PROCTOR'S CONTRACTING
510 MOHAWK TRAIL
ROSSVILLE GA 30741-0000

Ship To:
Chattanooga Facility
2701 Chestnut Street
Chattanooga TN 37408

Information	
PO Number	4500061785
Date	06/30/2004
Vendor No.	1420829
Currency	USD
Payment Terms	NET 45
Buyer	CT Purchasing
PHONE/FAX	423-752-3898 / 423-752-3909
Confirmed with	PAUL PROCTOR
Phone/Fax	706-866-6999 / 706-866-1826
Delivery Date	06/28/2004
Freight	FOB DESTINATION

Item	Material/Description	Quantity	U/M	Net Price	Net Amount
0010	clean out drainage areas on south end	1	EA	1,200.00	1,200.00
				Net Value	1,200.00

INSTRUCTIONS TO VENDOR:
This Purchase Order is subject to the Terms and Conditions Incorporated herein by this reference. For a copy of the Terms and Conditions, please refer to the "USP Supplier Guide to Purchasing". A copy of the Guide may be obtained by visiting USP's website at www.uspipe.com, calling USP Corporate Purchasing at (205) 254-7168 or by contacting the Buyer referenced in the Information block above.

SIGNATURE _____ DATE _____
(Purchasing/Accounting)

07/01/2004 THU 10:05 FAX 4237523950 us pipe

0005/006



United States Pipe and Foundry Company, Inc.
3300 First Avenue North
BIRMINGHAM, AL 35222

Page 1 of 1

Purchase order

Bill To:
ATTN: ACCOUNTS PAYABLE
United States Pipe and Foundry Company, Inc.
3300 First Avenue North
BIRMINGHAM, AL 35222

Vendor Address:
PROCTOR'S CONTRACTING
510 MOHAWK TRAIL
ROSSVILLE GA 30741-0000

Ship To:
Chattanooga Facility
2701 Chestnut Street
Chattanooga TN 37408

Information	
PO Number	4500061001
Date	06/21/2004
Vendor No.	1420829
Currency	USD
Payment Terms	NET 45
Buyer	CT Purchasing
PHONE/FAX	423-752-3898 / 423-752-3909
Confirmed with	PAUL PROCTOR
Phone/Fax	706-866-6889 / 706-866-1826
Delivery Date	08/28/2004
Freight	FOB DESTINATION

Item	Material Description	Quantity	Unit	Net Price	Net Amount
0010	remove solids along west fence line	1	EA	1,800.00	1,800.00
				Net Value	1,800.00

INSTRUCTIONS TO VENDOR:

This Purchase Order is subject to the Terms and Conditions incorporated herein by this reference. For a copy of the Terms and Conditions, please refer to the "USP Supplier Guide to Purchasing". A copy of the Guide may be obtained by visiting USP's website at www.uspipe.com, calling USP Corporate Purchasing at (205) 254-7169 or by contacting the Buyer referenced in the information block above.

SIGNATURE _____ DATE _____
(Purchasing/Accounting)

0003/006

CT - 261

POSTING NO.: 2003-124

DATE POSTED October 21, 2002 2:00 P.M.

DATE REMOVED: October 23, 2003 2:00 P.M.

NO. OF JOBS OPEN: 1 RATE \$ 12.100 REGULAR: XXXXXX TEMPORARY:

JOB REQUIREMENTS: PRESENT ABILITY TO PERFORM DUTIES OF JOB.

[illegible]

CT-225, Rev. 6/98

REQUEST FOR PERSONNEL ACTION

DATE 12/5/07

TO: PERSONNEL DEPARTMENT

Initiate Personnel Action Indicated on Employee:

R.A. Pike

524

1511

(Clock No.)

☐ 1. Change Classification ☐ Dept. ☐ Rate ☐ TO:

New Classification Sweeper Operator

New Department Receiving Yard

New Rate 12.130

Effective Date 12-8-07

☐ 2. Terminate for Reason Indicated:

Voluntary Quit _____

Laid Off _____

Discharged _____ (Give Reason in Remarks Below)

Last Day Worked _____
(Date)

Will Pick Up Final Pay _____
(Date)

REMARKS: Return to former job

Foreman DJ

Parker

07/01/2004 THU 10:04 FAX 4237523950 us pipe

002/006

97

Purchase order

Bill To:
ATTN: ACCOUNTS PAYABLE
United States Pipe and Foundry Company, Inc.
3300 First Avenue North
BIRMINGHAM, AL 35222

Vendor Address:
TENNANT SALES & SERVICE
701 NORTH LILAC DRIVE
MINNEAPOLIS MN 55440-1452

Ship To:
Chattanooga Facility
2701 Chestnut Street
Chattanooga TN 37408

Information

PO Number 4500044291
Date 12/05/2003
Vendor No. 1421789
Currency USD
Payment Terms NET 30
Buyer CT Purchasing
PHONE/FAX 423-752-3898 / 423-752-3909
Confirmed with Stacey Conzel ext. 2258
Phone/Fax 800-553-8033 / 763-540-1505
Freight FOB Delivered

Item	Material/Description	Quantity	UM	Net Price	Net Amount
0010	SWEEPER	1	EA	57,000.00	57,000.00
				Net Value	57,000.00

INSTRUCTIONS TO VENDOR:

The Purchase Order is subject to the Terms and Conditions incorporated herein by this reference. For a copy of the Terms and Conditions, please refer to the "USP Supplier Guide to Purchasing". A copy of the Guide may be obtained by visiting USP's website at www.uspipe.com, calling USP Corporate Purchasing at (205) 254-7169 or by contacting the Buyer referenced in the Information block above.

SIGNATURE _____

DATE _____

WORK INSTRUCTION U.S. Pipe - Chattanooga Plant	Document: WIM 9-12-1 Page: 1 of 2 Rev. 4, Date: 6/25/04
SHIPPING YARD PAINTING	Document Approval <i>[Signature]</i> See Original

PURPOSE & RESPONSIBILITY

The purpose is to specify instruction for painting castings in the Shipping Department. Shipping Foremen supervising Painters are responsible for implementing this work instruction. All employees who paint castings are responsible for following procedures and instructions applicable to their assigned tasks.

DEFINITIONS

Route Code	A alphabetical letter signifying the different types of coating applications and lining requirements for castings
Route Code List	A list containing all Route Codes and their definitions
Load Out Section	A numerically numbered order staging area prior to shipment
Paint List	A list containing section numbers and route codes needed to be painted prior to shipment
Special Coating	Coatings other than standard asphalt or Fusion Bond Epoxy coating

ASSOCIATED DOCUMENTS, TOOLS, AND MATERIALS

Chipping Hammer, Hoist, Respirator, Mil Thickness Gage, Paint Conveyor, Pre Heat Oven, and Paint Sprayer

STANDARD COATING PROCEDURES

1. Do not paint outdoors when it is raining, expected to rain, or in standing water that could runoff.
2. If shipments demand, product must be returned to Cement Lining for touchup.
3. Obtain a paint list from the Foreman and locate section to be painted.
4. Prep and clean castings for standard coating when applicable - most standard coating is performed as touch up only and does not require prep and clean.
5. Apply paint as required according to route codes.
6. Advise Foreman when painting is complete.
7. Handle finished product in a manner that prevents damage to coating and cement lining.
8. Notify a Supervisor before placing a fork blade inside cement lined or FBE coated casting when placing a blade inside the casting can not be avoided.
9. Clean spray equipment as required and at the end of each shift.
10. Knock out and remove cement lining from castings as directed by a Foreman.

Part 70 Permit Number
47-065-3321

Significant Modification and Administrative Amendments

This Modified Permit Shall Remain in Full Force and Effect

From February 16, 2001 Through April 8, 2004

Issued to:

UNITED STATES PIPE AND FOUNDRY COMPANY, INC.
2501-2701 CHESTNUT STREET
CHATTANOOGA, TENNESSEE 37408

Designated Representative:
Dennis Urbaniak

TELEPHONE: (423) 752-3912

Responsible official:

Agreed to By: _____
David J. Diederich
Plant Manager

An Application For Renewal Must Be Submitted to the Director of
the Chattanooga-Hamilton County Air Pollution Control Bureau.

No Later Than September 9, 2003

CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU

3511 Rossville Blvd
Chattanooga, Tennessee 37407
(423) 867-4321

Robert H. Colby
Director

Prepared by James V. Ware, P.E.

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Conditions Applicable to the Entire Facility	16
Emission Unit Special Conditions.....	20
Permit Shield	65

The emissions units regulated by this permit are the following:

Emission Unit	Certificate of Operation	Description
101	Previously Unpermitted	Charge Handling
102	3321-30400101-40C	Melting Facility
103	Previously Unpermitted	Hot Metal Transfer
104	Previously Unpermitted	Desulfurization & Slagging
105	3321-30400303-41C	Induction Holding Furnaces
106	3321-30400301-39C	Ductile Treating Process
107	Previously Unpermitted	No. 9 Unit Inoculation & Slagging
108	Previously Unpermitted	No. 4 & No. 10 Units Inoculation & Slagging
109	3321-30400101-39C	Fitting Plant Pouring & Cooling Operations
110	3321-30400101-39C	No.9 Unit Shakeout
111	3321-30400101-39C	No.4 & No.10 Units Shakeout
112	3321-30400340-15C 3321-30400101-38C 3321-30400325-69I 3321-30400325-70I	No. 9 Unit Casting Cleaning

113	3321-30400340-16C 3321-30400299-50C	No.4 & No.10 Units Casting Cleaning
114	3321-30400340-15C 3321-30400340-16C 3321-30400360-18C 3321-30400360-19C 3321-30400360-25C 3321-40200101-51C	Grinding, Finishing, & Priming Operation
115	3321-40200101-36C 3321-40200101-37C 3321-40200101-43C 3321-40200101-52C	Cement Lining Building
116	3321-40200801-42C	Special Coating Operation
117	3321-30400399-31C	No. 4 Unit Greensand Mold System
118	3321-30400350-35C	No. 10 Unit Airset Mold System
119	3321-30400350-44C 3321-30400350-35C	No. 10 Unit Sand Reclamation
120	3321-30400358-46C	No.9 Unit Greensand Mold System
121	Previously Unpermitted	Shell Cores Process
122	3321-30400398-33C	Airset Core System
123	3321-30400398-34C 3321-30400371-54C 3321-30400371-55C 3321-30400371-56C 3321-30400356-63I 3321-30400357-64I 3321-30400357-65I 3321-30400371-66I 3321-30400371-67I 3321-30400371-68I	Isocure Core System
124	3321-30400398-32C	Pepset Core System
125	3321-40200601-57C	Refractory Coating Operation
126	Previously Unpermitted	Packaging & Shipping Operation
127	3321-30400301-47C 3321-30799999-20C 3321-30799999-21C	Ancillary Fitting Plant Operations

128	3321-30400340-58I 3321-40202599-60I 3321-30400325-71I 3321-30400325-72I	Fusion Bonded Epoxy Process
201	3321-30400202-01C 3321-30400202-61I	Brass Melting Operation
202	3321-30400202-01C 3321-30400350-07C	Valve Plant Pouring, Cooling, Shakeout
203	3321-30400340-02C 3321-30400299-03C	Brass Cleaning Operation
204	3321-30400330-05C 3321-30400350-11C 3321-30400330-62I	Valve Plant Mold Making Operation
205	Previously Unpermitted	Valve Plant Core Making
206	3321-40200101-12C 3321-40200101-13C	Valve & Hydrant Production
207	3321-30400340-04C 3321-30400340-45C 3321-40202599-48C 3321-40202599-49C	Resilient Seat Valve Production
208	3321-30301001-09C 3321-60300103-53C	Ancillary Valve & Hydrant Plant Operations
301	Previously Unpermitted	Solid Waste Landfill

Conditions of General Applicability

This permittee, United States Pipe and Foundry Company, Inc., is subject to each of the conditions expressed below and is required to comply with them throughout the term of the permit, and by accepting this permit and operating under it United States Pipe and Foundry Company, Inc. agrees to comply with all terms, provisions, limitations and requirements herein.

ALL SECTIONS OF THE CHATTANOOGA AIR POLLUTION CONTROL ORDINANCE CITED IN THIS PERMIT AS SET FORTH IN THIS ORDINANCE AS OF THE DATE OF PERMIT ISSUANCE ARE INCORPORATED HEREIN BY REFERENCE. Section numbers referred to in this permit which are not otherwise identified refer to sections in the Chattanooga Air Pollution Control Ordinance.

- 1.0. Definitions. Unless specifically defined within an air pollution control ordinance provision referenced elsewhere in this permit, the definitions in §4-2 and §4-53 shall apply. §4-2; §4-53
- 2.0. Severability. If any provision, part of a provision, sentence, clause or phrase in this permit is for any reason declared to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such decision shall not affect the validity of any other portion of this permit, and only such invalid portion shall be elided. §4-57(a)(5)
- 3.0. Compliance.
 - 3.1. The permittee must comply with all conditions of the Part 70 permit. Noncompliance with any permit provision constitutes a violation of either the Chattanooga City Code, Part II, Chapter 4, known as "The Chattanooga Air Pollution Control Ordinance"; the Tennessee Air Quality Act, T.C.A. 68-201-101 *et. seq.*; and/or the federal Clean Air Act, as amended, Title 42 United States Code §7401 *et. seq.* and is grounds for joint and several enforcement action; for permit termination, revocation or modification; or for denial of a permit renewal application. Enforcement by the Board or Bureau Director shall be conducted in accordance with the provisions of §4-4, §4-7, §4-14, §4-15, §4-17, §4-18, §4-20, §4-61, §4-62, §4-63, §4-64, and §4-65, as appropriate to the circumstances. §4-57(a)(6)(i)
 - 3.2. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. §4-57(a)(6)(ii)
 - 3.3. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination; or the filing of a notification of planned changes or anticipated noncompliance does not stay any condition in this permit. §4-57(a)(6)(iii)
 - 3.4. A compliance certification shall be submitted within (12) twelve months after the issuance date of this permit and annually every twelve months thereafter throughout the term of this permit, or such more frequent periods as specified in any applicable requirement included in this permit. The compliance certification shall be submitted to the Chattanooga-Hamilton County Air Pollution Control Bureau in

Chattanooga, Tennessee and to Air and EPCRA Enforcement Branch, U.S. EPA Region 4, 61 Forsyth Street, SW, Atlanta, GA 30303. Such certification shall include the following information:

- 3.4.1. Identification of each term or condition of the permit that is the basis of the certification;
 - 3.4.2. Compliance status;
 - 3.4.3. Whether compliance was continuous or intermittent;
 - 3.4.4. The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with §4-57(a)(3);
 - 3.4.5. Where any specific test method requires quality assurance audit samples and the audit result does not validate the source's sample within the specified parameters, the source must retest the stack test until such time as the audit result does validate the sample within the specified parameters; except that the Bureau Director may waive retesting if the source's stack test sample is in compliance with this permit even if not validated within the specified quality assurance parameters. §4-3(d)
 - 3.4.6. Such other facts as the Board or Bureau Director may require to determine the compliance status of the Part 70 source; and §4-57(c)(5)(iii)(E)
 - 3.4.7. Such additional requirements as may be required for enhanced monitoring compliance certification under Title 42 U.S.C. § 7414(a)(3) and §7661c(b) of the Clean Air Act. §4-57(c)(5); §4-3(d)
- 3.5. The methods set forth in §4-3 shall be applicable for determining compliance with all terms, provisions, limitations and requirements contained in this permit, except where otherwise specifically provided in this permit.

4.0. Property Rights.

This permit does not convey any property rights of any sort or any exclusive privilege. This permit is not assignable except as provided in §4-58 (d)(1)(iv). §4-57(a)(6)(iv)

5.0. Information to be Furnished.

The permittee shall furnish to the Bureau Director, within a reasonable period of time, any information that the Board or the Bureau Director may request in writing to determine whether cause exists for modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board or the Bureau Director copies of records required to be kept by the permit. For information claimed to be confidential, the permittee may furnish such records directly to the Administrator of the U. S. Environmental Protection Agency along with a claim of confidentiality. Eligibility for confidential treatment shall be determined by the Board pursuant to the provisions of §4-19 of the Chattanooga Air Pollution Control Ordinance for information submitted directly to the Bureau Director. An independent determination

regarding confidentiality would be made by the Administrator of the U.S. Environmental Protection Agency for information submitted directly to the Administrator. §4-57(a)(6)(v)

6.0. Fees. The permittee shall pay fees to the Bureau Director consistent with the fee provisions set forth in §4-60. §4-57(a)(7)

7.0. Changes Provided for by Permit. No permit revision shall be required under any economic incentives, marketable permits, emissions trading or similar program or process which is included in the Chattanooga City Code, Part II, Chapter 4, Article III for changes that are provided for in this permit pursuant to such program or process. §4-57(a)(8)

8.0. Reasonably Anticipated Operating Scenarios. Contemporaneously with making a change from one operating scenario to another, the permittee must record in a log at the Part 70 source premises a record of the scenarios under which it is operating. §4-57(a)(9)

9.0. Acid Precipitation Requirements. Where an applicable requirement of the Clean Air Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Clean Air Act and incorporated by reference at §4-52(d), both provisions are herein incorporated into this permit by reference and shall be legally enforceable. This source does not lawfully hold any allowance under Title IV of the Clean Air Act. §4-57(a)(1)(ii)

10.0. Federal Enforceability. All terms and conditions in this Part 70 permit, including any provisions designed to limit the potential to emit of this Part 70 source, are enforceable by the Administrator of the U.S. EPA and by citizens under the Clean Air Act except as noted in this Item 10:

- | | | | |
|-------|---------|-----------|--------------|
| 10.1. | Rule 12 | Odors | (Local Only) |
| 10.2. | Rule 14 | Nuisances | (Local Only) |

Any terms and conditions included in the permit that are not required under the Clean Air Act or under any of its applicable requirements are specifically designated in this permit as not being federally enforceable under the Clean Air Act. §4-57(b)(1) and (2)

11.0. Inspection of Permitted Source(s). Upon presentation of identification and in the performance of their duties, the permittee shall allow the Bureau Director and other employees of the Chattanooga-Hamilton County Air Pollution Control Bureau to perform the following:

- 11.1. Enter upon the permittee's premises or buildings where a Part 70 source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- 11.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- 11.3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

11.4. Sample or monitor substances or parameters, and collect and preserve evidence for Significant Modification & Administrative Amendments (October 2000)

the purpose of assuring compliance with the permit or applicable requirements thereunder at reasonable times and for taking such other actions as are appropriate under the law in accordance with Item 3.1 of Conditions of General Applicability of this permit.

11.5. For the purposes of Items 11.2, 11.3, and 11.4 of these Conditions of General Applicability, "reasonable times" shall be considered to be customary business hours, unless reasonable cause exists to suspect noncompliance with the Chattanooga Air Pollution Control Ordinance or any "applicable requirement," as defined in §4-53, or with any permit issued thereunder, and the Bureau Director specifically authorizes a designee to inspect a facility at any other time.

11.6. In the alternative, the Bureau Director, other employees of the Chattanooga-Hamilton County Air Pollution Control Bureau, or any other law enforcement officer may obtain a search warrant to obtain, collect and preserve evidence. §4-16; §4-57(c)(2)

12.0. Record Retention Requirements.

12.1. All required monitoring data and related support information shall be retained by the permittee for five (5) years after the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, copies of all reports, and logs required by the permit. §4-57(a)(3)(ii)(B)

12.2. Reporting of Deviations. The permittee shall promptly report all emissions limitations exceedances and all other deviations from permit requirements (including those attributable to malfunctions), the probable cause of such exceedances or deviations, and any corrective actions or preventive measures taken. "Promptly report" shall mean an initial telephone report to the Bureau Director within twenty-four (24) hours after the onset of the exceedance or other deviation, followed up by a written report submitted to the Bureau Director within seven (7) days after the onset of the exceedance or other deviation. Any excess emissions or other deviation that creates an imminent hazard requiring immediate action to protect health or safety must be reported by telephone immediately to the Bureau Director, to the appropriate local emergency response agency, to the appropriate national response agency, and to the Tennessee Emergency Management Agency. §4-12 and §4-57(a)(3)(iii)(B)

13.0. Emergency Provision.

13.1. Definition. An emergency is any situation arising from sudden and reasonably unforeseeable events beyond the control of the permittee, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the permittee to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. §4-57(g)

- 13.2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Item 13 of these Conditions of General Applicability are met, unless an ambient air violation occurs as a result of the emergency. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence which establishes that:
- 13.2.1. An emergency occurred and that the permittee can identify the cause(s) of the emergency; and
 - 13.2.2. The permitted facility was at the time being properly operated; and
 - 13.2.3. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
 - 13.2.4. The permittee submitted telephone notice of the emergency to the Bureau Director within one (1) working day of the time when emission limitations were exceeded due to the emergency, and the permittee submitted a follow up written report to the Bureau within seven (7) days after the onset of the exceedance. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. §4-57(g)
- 13.3. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. §4-12; 4-57(g)
- 13.4. The permittee must employ all reasonable measures to keep emissions to a minimum during start-ups, shutdowns, operation, and emergencies. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Exceedances of limitations on emissions that are caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered emergencies, and shall be considered in violation of the emission standard exceeded. §4-12
- 13.5. A log of any operation or failure to operate, start-up, or shutdown resulting in air pollutant emissions in excess of any applicable requirement must be kept at the Part 70 source. This log must record at least the following:
- 13.5.1. Stack, air pollution control equipment, or emission point involved;
 - 13.5.2. Time excess emissions, start-up, or shutdown began or when excess emissions were first discovered by the source;
 - 13.5.3. Type of exceedance qualifying as a malfunction; or reason for shutdown;
 - 13.5.4. Time start-up or shutdown was complete or time the air pollutant source returned to normal operation after an emissions exceedance;

- 13.5.5. Documentation that the source was or was not, at the time of the onset of the exceedance, being properly operated;
 - 13.5.6. Documentation of any preventative maintenance of the air pollution control equipment or process equipment or processes that had been completed prior to the emissions exceedance, start-up, or shutdown;
 - 13.5.7. The steps taken by the source during the period of the emissions exceedance, start-up, or shutdown to minimize levels of emissions that exceeded the applicable requirements; and
 - 13.5.8. The magnitude and identity of the excess emissions, expressed in pounds per hour and the units of the applicable emission limitation, and the operating data and calculations used in determining the magnitude of the excess emissions. §4-12
- 13.6. The information required by Items 13.5.1 and 13.5.2 of these Conditions of General Applicability must be entered into the log by the end of the shift during which the exceedance or other deviation began. All required information shall be entered in the log no later than 24 hours after the exceedance or other deviation has ceased or has been corrected. Any later discovered corrections may be added in the log as footnotes with the reason given for the change. There shall be no erasures, obliterations, modifications, or revisions of the log entry except by single line-through and identification of corrections. §4-12
- 13.7. If the Bureau Director or the Administrator of the Chattanooga-Hamilton County Health Department finds that a condition of air pollution exists or is likely to exist, and that it creates any emergency requiring immediate action to protect human health or safety, the mayor with the concurrence of the Bureau Director or the Administrator of the Chattanooga-Hamilton County Health Department shall order persons causing or contributing to the air pollution to reduce or discontinue immediately the emission of air pollutants. Upon issuance of any such order, the Bureau Director shall fix a place and time, not later than twenty-four (24) hours thereafter, for a hearing to be held before the Board. Not more than twenty-four (24) hours after commencement of such hearing, and without adjournment thereafter, the Board shall affirm, modify, or recommend to the mayor that the order be affirmed, modified or set aside. §4-20
- 14.0. Certification. Any application form, report, or compliance certification submitted pursuant to this permit shall contain a certification, as defined in §4-53, by a responsible official, as defined in §4-53, of truth, accuracy, and completeness. Any certification required by this permit shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. §4-56(d)
- 15.0. Modifications.
- 15.1. Administrative amendments to this permit shall be requested and may be granted in accordance with §4-58(d), and only for the reasons set forth therein. The permittee is required to submit an application for an administrative amendment within sixty

(60) days after a change of the name of the permittee is registered with the Tennessee Secretary of State.

15.2. Minor permit modifications to this permit shall be requested and may be granted in accordance with §4-58(e)(1) and (2).

15.3. Significant permit modifications to this permit shall be requested and may be granted in accordance with §4-58(e)(3).

15.4. Operational flexibility allows changes within this permitted source without requiring a permit revision, if the changes are not modifications under Title I of the Clean Air Act and the changes do not exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions), provided that:

15.4.1. The permittee provides the U.S. Environmental Protection Agency and the Bureau Director with written notification at least 7 days in advance of the proposed changes; and

15.4.2. For each such change, said written notification shall include a brief description of the change within the permitted source, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.

The permit shield described in §4-57(f) shall not apply to any change made pursuant to operational flexibility. §4-58(i)

15.5. Installation permit application and issuance requirements in §4-8(a) of the Chattanooga Air Pollution Control Ordinance will apply to this permittee and emissions units located at this Part 70 source if modifications to or new construction of a Part 70 source are subject to the following:

15.5.1. § 4-41, Rule 18 (PSD);

15.5.2. § 4-41, Rule 25.3 (VOC rule for new or modified sources);

15.5.3. § 4-41, Rule 23 (Reasonable and proper controls for process gaseous emissions);

15.5.4. Any standard or other requirement pursuant to regulations promulgated under Title 42 U.S.C. §7411 in Title 40 Code of Federal Regulations Part 60; or

15.5.5. Case-by-case determinations made pursuant to Title 42 U.S.C. §7412(g) and (j) as set forth at §4-53 "Applicable requirement" (4); or

15.5.6. Case-by-case determinations made pursuant to §4-41, Rule 27 (Particulate Matter Controls for New Sources and New Modifications after August 29, 1995). §4-50

16.0. Off-Permit Changes.

Significant Modification & Administrative Amendments
(October 2000)

Page 11 of 66

MWPS011865

- 16.1. An off-permit change is one that:
 - 16.1.1. Is not addressed or prohibited by the permit;
 - 16.1.2. Is not a modification under Title I of the Clean Air Act;
 - 16.1.3. Is not subject to any requirements under Title IV of the Clean Air Act;
 - 16.1.4. Meets all applicable requirements, as described in this permit; and
 - 16.1.5. Does not violate, or cause or contribute to a violation of, any existing permit term or condition.
- 16.2. A contemporaneous notification shall be submitted to the Bureau Director and to the U.S. Environmental Protection Agency except for changes that qualify as insignificant under Sections 4-56(c)(11) and (c)(12).
- 16.3. The permittee shall keep a record describing off-permit changes made at the Part 70 source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those off-permit changes.
- 16.4. The permit shield described in §4-57(f) of the Chattanooga Air Pollution Control Ordinance shall not apply to any change made pursuant to off-permit changes. §4-58(j)
- 17.0. Permit Reopening. This permit shall be reopened and revised under any of the following circumstances, as set forth in §4-58(f)(1).
 - 17.1. Additional applicable requirements become applicable by amendment of the Chattanooga Air Pollution Control Ordinance to this source and the remaining permit term is 3 or more years. Such reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire.
 - 17.2. Additional requirements (including excess emissions requirements) become applicable to an affected source as defined in §4-53. Upon approval by the Administrator and amendment of the local air pollution control ordinance, excess emissions offset plans shall be incorporated into the permit.
 - 17.3. The Board or Bureau Director or the Administrator determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - 17.4. The Board or Bureau Director or the Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

Proceedings to reopen and issue a revised permit shall follow the same procedures as apply to Significant Modification & Administrative Amendments
(October 2000)

to initial permit issuance, described in §4-58, and shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable, but only after notice of such intent is provided to this permittee by the Bureau Director at least 30 days in advance of the date that permit is to be reopened. A shorter time period may be provided in the case of an emergency. §4-58(f).

This permittee is also subject to reopening for cause by EPA, as described in §4-58(g). §4-58(g).

18.0. Rules Applicable to All Permittee Activities. The following conditions apply to all activities of this permittee, including insignificant activities:

- 18.1. Nitrogen Oxides. The permittee shall comply with §4-41, Rules 2.4, 2.5 and 2.7, regarding emissions of nitrogen oxides.
- 18.2. Visible Emissions. The permittee shall comply with §4-41, Rule 3, limiting the opacity of visible emissions to twenty (20) percent for an aggregate of five (5) minutes in any one hour period or twenty (20) minutes in any twenty-four hour period. The permittee shall also comply with §4-41, Rule 9, regarding visible emissions from internal combustion engines. In addition, the permittee shall comply with §4-41, Rule 11 limiting opacity from transport and material handling in open air to twenty (20) percent opacity for three (3) minutes in any consecutive sixty-minute period or twenty (20) minutes in a twenty-four hour period. §4-41, Rule 3, Rule 9 and Rule 11. §4-3(c)(9).
- 18.3. Certain Fuels. The permittee shall comply with §4-41, Rule 4, regarding importation, sale, transportation, use or consumption of fuels and sulfur content.
- 18.4. Prohibition of Hand-Fired Fuel-Burning Equipment. The permittee shall comply with §4-41, Rule 5, regarding hand-fired fuel-burning equipment.
- 18.5. Open Burning. The permittee is prohibited from conducting open burning except in accordance with §4-41, Rule 6.
- 18.6. Other Fuel-Burning Equipment. The permittee shall comply with §4-41, Rule 8, regarding other fuel-burning equipment.
- 18.7. Process Emissions. The permittee shall comply with §4-41, Rule 10, regarding process emissions.
- 18.8. Odors in Ambient Air. The permittee shall comply with §4-41, Rule 12, regarding emission of objectionable odors. (Local Rule).
- 18.9. Sulfur Oxides. The permittee shall comply with §4-41, Rule 13, regarding emissions of sulfur oxides.
- 18.10. Nuisance. The permittee shall comply with §4-41, Rule 14, concerning discharges from any source of air contaminants or other material which shall cause a nuisance. (Local Rule)

- 18.11. Hazardous Air Pollutants. The permittee shall comply with §4-41, Rule 16.1 through 16.4 regarding emission standards for hazardous air pollutants other than asbestos.
- 18.12. Asbestos Demolition or Renovation. The permittee shall comply with §4-41, Rule 17, when conducting any demolition or renovation activities at the permitted source.
- 18.13. Stack Heights. The permittee shall comply with §4-41, Rule 22, regarding good engineering practices for stack heights.
- 18.14. Particulate Matter Controls for New Sources and New Modifications After August 30, 1995. The permittee shall comply with §4-41, Rule 27 regarding particulate matter controls for any new source or modification for which installation commences after August 30, 1995.
- 19.0. Stratospheric Ozone and Climate Protection. The permittee is subject to the standards for recycling and emissions reduction promulgated at Title 40 *Code of Federal Regulations* Part 82, Subpart F, including the use of certified technicians only.
- 20.0. Dismantled Equipment. The permittee shall report to the Bureau Director within thirty (30) days after the permanent discontinuance or dismantlement of any equipment or activity covered by this permit.
§4-11(a)
- 21.0. Monitoring. All monitoring and related reporting shall be conducted in compliance with §4-57(a)(3)(ii)(A) and (B).
- 22.0. Applicable Requirements. In addition to the Conditions of General Applicability, Conditions Applicable to the Entire Facility, and Emission Unit Special Conditions in this permit, "applicable requirements" as defined in §4-53 shall apply.
- 23.0. Basis of Permit. This permit is being issued based on the statements made and the information provided in the Part 70 permit application submitted under oath by this source.

CONDITIONS APPLICABLE TO THE ENTIRE FACILITY

1.0. Monitoring Reports. In addition to the conditions of general applicability, semiannual compliance monitoring reports are required. The initial report is due within thirty days after the end of the first six-month reporting period following permit issuance. After that, reports will be required at six-month intervals. The following items used for manufacturing at the facility will be included in the compliance report for the preceding rolling twelve-month period:

- 1.1. Total quantity and VOC content of each VOC-containing coating
- 1.2. Total quantity of each sand core and/or mold resin component
- 1.3. Total quantity and sulfur content of coke used at the melting facility
- 1.4. Total operating hours of the No.10 Unit Sand Reclamation Equipment (E036 and E037) and the No.9 Unit Sand Screening Drum (E023)
- 1.5. Total quantity of triethylamine
- 1.6. Total quantity and VOC content of each VOC-containing refractory coating
- 1.7. Total quantity of iron poured at the facility
- 1.8. Total quantity of brass poured at the facility
- 1.9. Total quantity of sand used in the Hunter Mold Machine (EV051)
- 1.10. Total quantity of mold release agent used in the Hunter Mold Machine (EV051)

2.0. Maintenance Plans and Procedures.

- 2.1. Within twelve months of permit issuance, United States Pipe and Foundry Company, Inc. shall develop and maintain a preventative maintenance plan and procedures for all major air pollution control equipment. At a minimum, the plans shall include the manufacturer's recommendations and recordkeeping of periodic and/or scheduled maintenance activities for the purposes of complying with such plans and procedures. These plans shall be updated as necessary, maintained on site, and available for inspection by Bureau representative upon request during normal business hours. §4-57
- 2.2. For the purpose of this Condition 2.0, major air pollution control equipment shall be defined as all air pollution equipment for which monitoring and inspection is required in this Part 70 permit.

3.0. Insignificant Activities. The following insignificant activities were certified in the United States Pipe and Foundry Company Part 70 permit application to be in compliance with §4-56(c)(12).

- 3.1. Surface coating and degreasing operations which do not exceed a combined total usage of more than 60 gallons/month of coatings, thinners, clean-up solvents, and degreasing solvents, at any one location.
- 3.2. All storage tanks with a capacity of no more than 1,000 gallons (including 55-gallon drums used only for storage) except those emitting any hazardous air pollutant.
- 3.3. Powder coating operations.
- 3.4. Emergency generators.

- 4.0. Record Keeping Activities. Records as required under this Part 70 permit shall be kept of the following items for a period of five years:
- 4.1. Total operating hours of the No.10 Unit Sand Reclamation Equipment (E036 and E037) and the No.9 Unit Sand Screening Drum (E023)
 - 4.2. All information required as part of Item 13.5 in the Conditions of General Applicability
 - 4.3. All information required as part of Item 1.0 in the Conditions Applicable to the Entire Facility
 - 4.4. All performance evaluations for emissions control systems in accordance with Condition 7.0 in these Conditions Applicable to the Entire Facility
 - 4.5. All corrective actions taken as a result of the performance evaluations conducted in accordance with Condition 7.0 in these Conditions Applicable to the Entire Facility
 - 4.6. All information entered into logs as required in Condition 7.0 of these Conditions Applicable to the Entire Facility and the Emission Unit Special Conditions of this Part 70 Permit
- 5.0. Sulfur Concentration in Coke. The maximum allowable sulfur content of the coke used at this facility shall not exceed 0.7 percent. *Part 70 Permit Application Request by Permittee*
- 6.0. Visible Emissions from Buildings. Visible emissions from buildings, other than those from stacks or flues, shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. *§4-41, Rule 26.20; §4-57*
- 7.0. Compliance Monitoring.
- 7.1. Visible Emissions. Daily qualitative visible emissions observations shall be conducted of the following designated emission points while the source is in operation. In the event that visible emissions are observed at or above the designated action level for the individual emission point, a formal visible emission reading shall be conducted in accordance with U.S. EPA Test Method 9, Title 40 *Code of Federal Regulations* Part 60, Appendix A (July 1, 1996), as supplanted by the provisions of Section 4-3(c)(9) of the Chattanooga Air Pollution Control Ordinance. If the opacity of the observed visible emission is determined to be above the designated action level, corrective action shall be initiated.
 - 7.1.1. Each formal visible emissions reading shall be conducted for a minimum of fifteen consecutive minutes by a certified observer.
 - 7.1.2. U.S. Pipe shall maintain a log of all qualitative and formal visible emissions observations in accordance with the following:

7.1.2.1. The qualitative visible emissions observation log shall contain; at a minimum, the date of the observation, the results of the observation, and the initials of the observer.

7.1.2.2. The formal visible emissions reading log shall contain, at a minimum, the date and time the reading was made, the results of the reading, the name of the observer, and the cause and corrective action taken for the observed emissions.

7.1.2.3. U.S. Pipe shall maintain the logs and original visible emissions observations forms for a period of five years after the date of entry.

7.1.3. Visible emissions monitoring shall be conducted on the following emission points:

Stack ID	Description	Action Level	Allowable
S001	Charge Handling	10%	20%
S003/S004	Cupola	10%	20%
S004	Melting Facility Building	5%	5%
S002	Cupola Baghouse	10%	20%
S007	Ductile Treating & No.9 Unit Shakeout Baghouse	10%	20%
S005/S006	Ductile Building Roof Vents and Ventilators	5%	5%
S008-S015	Main Foundry Building Roof Monitors over Units Nos.9, 4, & 10 Pouring, Cooling, & Shakeout	5%	5%
S022	No.9 Unit Secondary Shakeout Baghouse	10%	20%
S059	Cleaning Shed No.1 Ventilators	5%	5%
S019/S060	Cleaning Shed No.2 Roof Eaves	5%	5%
S062	Old Heat Treat Building Wall Fan	5%	5%
S017	Burn-Off Building Roof Vents	5%	5%
S037	Sand Reclaimer Fines Baghouse	10%	20%
S038	Sand Reclaimer Classifier Baghouse	10%	20%
S053	Shell Core Building Ventilator	5%	5%
S078	Pattern Shop Cyclone	10%	20%
S090	No. 9 Casting Cooling Conveyor Baghouse	10%	10%
S091	FBE Rotoblast Barrels Baghouse	10%	10%
SV01	Brass Furnace Baghouse	10%	20%

7.2. Differential Pressure Across Baghouses. Daily monitoring of the differential pressure across the designated baghouses shall be conducted while the equipment is in operation. In the event that the differential pressure is observed outside the designated range, an investigation shall be initiated to determine the nature of the event causing the device to operate outside the designated range. Once the nature of the event has been determined, corrective action shall be initiated.

7.2.1. To establish or revise monitoring parameter ranges, the minor permit modification procedures in Section 4-58(e)(1) of the Chattanooga Air Pollution Control Ordinance shall apply. The analysis used to determine the

proposed ranges and documentation of the reasons for the proposed revisions shall be submitted to the Director of the Chattanooga-Hamilton County Air Pollution Control Bureau with the application.

- 7.2.2. Differential Pressure Monitoring shall be conducted for the control devices listed below. These control devices shall operate within the specified differential pressure range. On such occasions that any of these control devices operate outside the designated differential pressure range, United States Pipe and Foundry Company, Inc. shall record and report the occurrence in accordance with Condition 12.2 of the Conditions of General Applicability.

CONTROL DEVICE ID.	DESCRIPTION	RANGE (INCHES OF WATER)
CD002	Cupola Baghouse	2- 5 12
CD003	Ductile Treating & No.9 Unit Shakeout Baghouse	2-7
CD004	Large Casting Burn-off Baghouse (two units)	2-5/2-5
CD005	Large Casting Rotoblast Baghouses	2-8
CD006	No.9 Unit Secondary Shakeout Baghouse	1.5-5
CD007	No. 9 Casting Automatic Cleaner Baghouse	2-8
CD008	Monorail & 8' Tableblast Baghouse	2-7
CD040	BCP Cabinet Blast Cleaner Baghouse	2-5
CD047	No.9 Casting Cooling Conveyor Baghouse	2-5
CD048	FBE Rotoblast Barrels Baghouse	1.5-5
CD049	FBE Airblast Cleaner Baghouse	3-5
CDV01	Brass Furnace Baghouse	2-5
CDV02	Brass Tumble Blast Baghouse	1.5-5
CDV03	Cut-off Saws & Pedestal Grinders Baghouse	0.2-5
CDV04	Greensand Preparation Baghouse	0.2-5
CDV08	Rotoblast Baghouse	2-9
CDV10	Airblast Baghouse	2-5

- 7.3. United States Pipe and Foundry Company, Inc. shall maintain a log of all differential pressure readings taken for each device. This log shall contain, at a minimum, the date of the observation, the observed reading, and the initials of the observer. This log shall be maintained for a period of five years after its date of entry.

- 8.0. Emissions Determination. All estimated emissions for this Part 70 Permit shall be the product of the emission factor for a given process and the applicable control efficiencies (including equivalent control efficiencies for wetted sand processes and settling factors). Verification of compliance with the emission limitations of this Part 70 Permit shall be accomplished using the emission calculation method stated above. §4-57; §4-60

- 9.0. Emissions Testing. Emissions testing for this facility, if required by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau, may consist of particulate matter, sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and hazardous air pollutants (HAP) testing, and shall be performed in

accordance with the U.S. EPA Test Methods contained in Title 40 *Code of Federal Regulations* Part 60, Appendix A (July 1, 1996), and in accordance with the provisions in Section 4-3 of the Chattanooga Air Pollution Control Ordinance. §4-3; §4-57(c)(1)

- 10.0. Replacement of Equipment. The addition of air pollution control equipment to achieve additional emissions reductions and/or the replacement of air pollution control equipment with air pollution control of equal or greater control efficiency for each pollutant controlled by the original equipment are changes that qualify as operational flexibility with the following exception. The exception is that the air pollution control technology required by any regulation promulgated pursuant to Section 112 of the Clean Air Act codified at Title 40 *Code of Federal Regulations* Part 63, including control measures employed to demonstrate early reductions of hazardous air pollutants, is not eligible for replacement under operational flexibility. Operational flexibility changes are subject to the notification requirements of Paragraph 15.4 in the Conditions of General Applicability.
- 11.0. Usage of Equivalent Materials. United States Pipe and Foundry Company, Inc. may, at its discretion, employ the use of equivalent raw materials in plant operations. Equivalent raw materials are materials whose emissions of regulated air pollutants from the effected emission unit(s) shall not exceed the emissions allowed under this permit. No later than seven days prior to the change, United States Pipe and Foundry Company, Inc. shall provide to the Chattanooga-Hamilton County Air Pollution Control Bureau an analysis of the projected hourly emission rate of all regulated air pollutants, including hazardous air pollutants, based on this change in the raw materials. *Part 70 Permit Application Request by Permittee*

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT 101 – CHARGE HANDLING

Charge Handling Equipment (E001)

- 1.0. The maximum emissions of particulate matter resulting from charge handling shall be limited to 8.57 pounds per hour and 37.53 tons per year. §4-2; §4-57; §4-60
- 2.0. Visible emissions from material handling shall not exceed an opacity of twenty percent for an aggregate of more than three minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 11.1
- 3.0. Visual emissions inspections of charge handling shall be conducted in accordance with Condition 7.1 in the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 102 – MELTING FACILITY

Cupola (E002)

Cupola Afterburner (CD001)

- 1.0. The maximum emissions of particulate matter from the melting facility shall be limited to 4.95 pounds per hour and 21.68 tons per year. Compliance with this emissions limitation shall be demonstrated by venting all captured cupola emissions through the Cupola baghouse (CD002). This Cupola baghouse shall be in operation at all times during cupola operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-2; §4-57
- 2.0. Operation of the Cupola baghouse (CD002) shall be within the operational pressure drop range determined in accordance with the compliance monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. Preventative maintenance on the Cupola baghouse (CD002) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures described in Condition 2.0 of the Conditions Applicable to the Entire Facility. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 4.0. Visible emissions from the Melting Facility shall not exceed an opacity of twenty percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 3.1
- 5.0. Visual emissions inspections of the melting facility shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 6.0. During startup and shutdown of the cupola, the owner or operator of the melting facility shall make such provisions or modifications as may be necessary so that visible emissions from the startup and shutdown of the cupola shall not exceed an opacity of twenty percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period and so that mass emissions do not exceed 0.020 grains per dry standard cubic foot. §4-41, Rule 3.1, Rule 26.12; §4-57
- 7.0. The maximum emissions of sulfur dioxide (SO₂) from the melting facility shall be limited to 6.55 pounds per hour and 28.66 tons per year. This emissions limitation shall be met by a maximum sulfur content of 0.7 percent by weight in the coke used as fuel in the cupola and by burning only natural gas or No.2 fuel oil as fuel in the cupola afterburner. §4-2; §4-57; Part 70 Permit Application Request by Permittee
- 8.0. The maximum allowable emissions of nitrogen oxides (NO_x) from the melting facility shall be 20.02 pounds per hour and 87.69 tons per year. This emissions limitation shall be met by burning only natural gas or No.2 fuel oil as fuel in the cupola afterburner. §4-2; §4-41, Rule 2; §4-57

- 9.0. All combustion emissions limitations shall be met by burning only natural gas or No.2 fuel oil as fuel in the cupola afterburner (CD001). §4-57
- 10.0. Operation of the cupola afterburner (CD001) shall be performed according to the permittee's written plans and procedures and the manufacturer's recommendations. These plans and procedures shall be such as to insure adequate residence time and operating temperature for proper control efficiency. These operational plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 11.0. The operating temperature of the cupola afterburner (CD001) shall be maintained between 1100°F and 1600°F whenever melting operations are conducted. This temperature shall be logged hourly. Continuous monitoring of the operating temperature by strip or circular chart recorder shall satisfy this monitoring requirement. §4-57
- 12.0. Preventative maintenance on the cupola afterburner (CD001) shall be performed accordance to United States Pipe and Foundry Company's written plans and procedures. These maintenance plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57

EMISSION UNIT 103 – HOT METAL TRANSFER

Hot Metal Transfer from Melting (E003)

- 1.0. The maximum emissions of particulate matter resulting from hot metal transfer shall be limited to 2.08 pounds per hour and 9.12 tons per year. §4-2; §4-57; §4-60
- 2.0. Visible emissions from material handling shall not exceed an opacity of twenty percent for an aggregate of more than three minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 11.1

EMISSION UNIT 104 – DESULFURIZATION & SLAGGING

Desulfurization Process (E004)

EMISSION UNIT 105 – INDUCTION HOLDING FURNACES

Hot Metal Transfer to Holding Furnace (E005)

Holding Furnace Preheat (E006)

EMISSION UNIT 106 – DUCTILE TREATING PROCESS

Treating Ladles (E007)

- 1.0. Emission limitations for particulate matter for these Emission Units shall be:
 - 1.1. The maximum emissions of particulate matter from Emission Unit 104 (Desulfurization and Slagging E004) shall be limited to 12.31 pounds per hour and 53.92 tons per year. §4-2; §4-57; §4-60
 - 1.2. The maximum emissions of particulate matter from Emission Unit 105 (Hot Metal Transfer to Holding Furnace E005 and Holding Furnace Preheat E006) shall be limited to 0.67 pounds per hour and 2.93 tons per year. §4-2; §4-57; §4-60
 - 1.3. The maximum emissions of particulate matter from Emission Unit 106 (Ductile Treating Process) shall be limited to 0.756 pounds per hour and 3.312 tons per year. Compliance with this emissions limitation shall be demonstrated by the operation of an emissions capturing system. All captured emissions from ductile treating shall be vented through the Ductile Treating and No.9 Unit Shakeout baghouse (CD003). This baghouse shall be in operation at all times during ductile treating except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-2; §4-57
 - 1.4. Particulate emissions from the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) stack (S007) shall not exceed 12.86 pounds per hour. These baghouse stack emissions consist of the combined emissions from the Ductile Treating Process (Emission Unit 106) and No.9 Unit Shakeout (Emission Unit 114). §4-41, Rule 26.12
- 2.0. Operation of the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. Visual emissions inspections of Ductile Treating Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 4.0. The maximum emissions of sulfur dioxide (SO₂) from the Induction Holding Furnace Preheaters shall be limited to 0.0004 pounds per hour and 0.002 tons per year. Compliance with

this emission limitation shall be met by burning only natural gas as fuel in the Induction Holding Furnace Pre-heaters. §4-2; §4-57

- 5.0. The maximum emissions of nitrogen oxides (NO_x) from the Induction Holding Furnace Pre-heaters is 0.067 pounds per hour and 0.295 tons per year. Compliance with this emission limitation shall be met by burning only natural gas as fuel in the Induction Holding Furnace Pre-heaters. §4-2; §4-57; §4-60

EMISSION UNIT 107 – No.9 UNIT INOCULATION & SLAGGING

No.9 Unit Inoculation Process (E008)

EMISSION UNIT 108 – No.4 & No.10 UNITS INOCULATION & SLAGGING

No.4 & No.10 Unit Inoculation (E009)

EMISSION UNIT 109 – FITTING PLANT POURING & COOLING OPERATIONS

No.9 Unit Pouring (E010)

No.9 Unit Cooling (E011)

No.4 Unit Pouring & Cooling (E012)

No.10 Unit Pouring & Cooling (E013)

- 1.0. The maximum emissions of particulate matter from No.9 Unit Inoculation and Slagging shall be limited to 12.06 pounds per hour and 52.82 tons per year. §4-2; §4-57; §4-60
- 2.0. The maximum emissions of particulate matter from No.4 & No.10 Units Inoculation & Slagging operations shall be limited to 4.48 pounds per hour and 19.63 tons per year. §4-2; §4-57; §4-60
- 3.0. Combined emissions of particulate matter from Fitting Plant Pouring & Cooling shall not exceed 21.94 pounds per hour and 96.10 tons per year. §4-2; §4-57; §4-60
- 4.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 110 – No.9 UNIT SHAKEOUT

No.9 Unit Shakeout (E014)

- 1.0. The maximum emissions of particulate matter from No.9 Unit Shakeout operations shall be limited to 7,277 pounds per hour and 31.87 tons per year. Compliance with this condition shall be demonstrated by the following:
 - 1.1. At all times during No.9 Unit Shakeout operations, an emissions capturing system shall be in operation to minimize fugitive emissions from this source.
 - 1.2. All captured emissions from the No.9 Unit Shakeout shall be vented through the Ductile Treating and No.9 Shakeout Baghouse (CD003). This capture system and baghouse shall be in operation at all times during shakeout operations except in accordance with Condition 13.0 of the Conditions of General Applicability.

§4-2; §4-57; §4-60

- 2.0. Operation of the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) shall be within the operational pressure drop range determined in accordance with the compliance monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. *§4-57*
- 3.0. Particulate emissions from the Ductile Treating and No.9 Unit Shakeout baghouse (CD003) stack (S007) shall not exceed 12.86 pounds per hour. These emissions consist of combined captured emissions from the Ductile Treating Process (Emission Unit 106) and No.9 Unit Shakeout (E014 of Emission Unit 110). *§4-41, Rule 26.12*
- 4.0. Preventative maintenance on the Ductile Treating No.9 Unit Shakeout baghouse (CD003) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. *§4-57*
- 5.0. Visible emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*

EMISSION UNIT 111 – No.4 & No.10 UNITS SHAKEOUT

No.4 & No.10 Units Shakeout (E015)

- 1.0. The maximum emissions of particulate matter from No.4 & No.10 Units Shakeout operations shall be limited to 21.26 pounds per hour and 93.12 tons per year. §4-2; §4-57; §4-60
- 2.0. Visible emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Condition Applicable to the Entire Facility. §4-57

EMISSION UNIT 112 – No.9 UNIT CASTING CLEANING

No.9 Unit Casting Handling (E018)
No.9 Unit Secondary Shakeout (E019)
No.9 Unit Casting Rotoblast Monorail & Table (E021)
Casting Cooling Conveyor (E132)
No.9 Unit Casting Automatic Cleaner (E133)

- 1.0. Combined emissions of particulate matter resulting from No.9 Unit Casting Cleaning operations shall not exceed 14.70 pounds per hour and 64.37 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. At all times during No.9 Unit Secondary Shakeout operations, an emissions capturing system shall be in operation to minimize fugitive emissions from this source.
 - 1.2. All captured emissions captured from No.9 Unit Secondary Shakeout shall be vented through the No.9 Unit Secondary Shakeout baghouse (CD006). This baghouse shall be in operation at all times during secondary shakeout operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.3. The maximum allowable particulate emissions from the No.9 Unit Secondary Shakeout baghouse (CD006) stack (S022) shall be 2.571 pounds per hour as calculated based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-2; §4-41, Rule 26.12; §4-57
 - 1.4. All capture emissions from the No.9 Casting Automatic Cleaner shall be vented through the No.9 Casting Automatic Cleaner Baghouse (CD007). This baghouse shall be in operation at all times during rotoblast operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.5. The maximum allowable particulate emissions from the No.9 Casting Automatic Cleaner baghouse (CD007) stack (S023) shall be 2.5 pounds per hour. This condition has been determined to be Reasonable and Proper Control by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-2; §4-41, Rule 27.3; §4-57
 - 1.6. All captured emissions from the No.9 Unit Rotoblast Monorail and Table shall be vented through the Pangborn Monorail and Rotoblast Table baghouse (CD008). This baghouse shall be in operation at all times during monorail and rotoblast table operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.7. The maximum allowable particulate emissions from the No.9 Unit Rotoblast Monorail and Table baghouse (CD008) stack (S024) shall be 2.362 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-2; §4-41, Rule 26.12; §4-57

- 1.8. All captured emissions from the No.9 Casting Cooling Conveyor shall be vented through the No.9 Casting Cooling Conveyor baghouse (CD047). This baghouse shall be in operation at all times during cooling conveyor operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
- 1.9. The maximum allowable particulate emissions from the No.9 Casting Cooling Conveyor baghouse (CD047) stack (S090) shall be 0.10 pounds per hour. This condition is Reasonable and Proper control as determined by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 27.3; §4-57
- 1.10. Preventative maintenance on the No.9 Unit Secondary Shakeout baghouse (CD006), No.9 Casting Automatic Cleaner baghouse (CD007), Pangborn Monorail and Rotoblast Table baghouse (CD008), and the No. 9 Casting Cooling Conveyor baghouse (CD047) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures described in Condition 2.0 of the Conditions Applicable to the Entire Facility. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 1.11. Operation of the No.9 Unit Secondary Shakeout baghouse (CD006), No.9 Casting Automatic Cleaner baghouse (CD007), Pangborn Monorail and Rotoblast Table baghouse (CD008), and the No. 9 Casting Cooling Conveyor baghouse (CD047) shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 2.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 113 – No.4 & No.10 UNITS CASTING CLEANING

Large Casting Burn-off (E016)

12' Rotoblast Table (E017)

- 1.0. The maximum emissions of particulate matter resulting from No.4 & No.10 Units Casting Cleaning operations shall be limited to 0.62 pounds per hour and 2.71 tons per year. Compliance with this emission limitation shall be achieved by the following:
 - 1.1. At all times during large casting burn-off operations, an emissions capture system shall be in operation to minimize fugitive emissions from this source.
 - 1.2. The exhaust from the large casting burn-off operation shall be vented through the Large Casting Burn-off baghouse (CD004). This baghouse shall be in operation at all times during large casting burn-off operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.3. The maximum allowable particulate emissions from the Large Casting Burn-off baghouse (CD004) stack (S016) shall be 2.571 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate.
 - 1.4. The exhaust from the 12' Rotoblast Table shall be vented through the Pangborn Large Casting Rotoblast baghouse (CD005). This baghouse shall be in operation at all times during operation of the rotoblast table except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.5. The maximum allowable particulate emissions from the Large Casting Rotoblast baghouse (CD005) stack (S018) shall be 1.735 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate.

§4-2; §4-41, Rule 26.12; §4-57

- 2.0. Operation of the Large Casting Burn-off baghouse (CD004) shall be in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. *§4-57*
- 3.0. Visual emissions inspections of the Burn-off Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*
- 4.0. Preventative maintenance of the Large Casting Burnoff baghouse (CD004) and Pangborn Large Casting Rotoblast baghouse (CD005) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. *§4-57*

EMISSION UNIT 114 – GRINDING, FINISHING, & PRIMING

Casting Finishing Area No.1 (E084)

Casting Finishing Area No.2 (E085)

Casting Finishing Area No.3 (E086)

Casting Finishing Area No.4 (E087)

Primer Dip Coating Operation (E088)

- 1.0. The maximum emissions of particulate matter from Grinding, Finishing, and Priming operations shall be limited to 1.76 pounds per hour and 7.70 tons per year. §4-2; §4-57; §4-60
- 2.0. Visual emissions inspections of the Cleaning Sheds No.1, No.2, and No.3, the Old Bond Storage Building, the Old Heat Treat Building, and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. The volatile organic compound (VOC) content in all surface coatings used in the Primer Dip Coating Operation shall not exceed 3.5 pounds per gallon of coating, less water and exempt solvents, as delivered to the applicator. §4-2; §4-41, Rule 25.21; §4-57; §4-60
- 4.0. A log of the Primer Dip Coating Operation shall be maintained and shall reflect the date and quantity of coating delivered. §4-57

EMISSION UNIT 115 – CEMENT LINING BUILDING

Cement Mixing and Lining Stations (E089-E095)
Cement Lining Drying Ovens Nos. 1, 3, and 4 (E096-E098)
No. 1 and No. 3 Dip Paint Lines (E099, E102)
Binks Spray Paint Booth (E100)
Large Fittings Paint Booth (E101)
Coating Drying Ovens Nos. 1 and 3 (E103-E104)

- 1.0. The maximum emissions of particulate matter resulting from operations in the Cement Lining Building shall be limited to 1.05 pounds per hour and 4.6 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
- 1.1. All captured emissions from the Binks Spray Paint Booth and the Large Fittings Paint Booth shall be vented through their respective dry filter systems (CD034 and CD035). These filter systems shall be in place at all times during paint booth operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
- 1.2. A visual inspection of the dry filters shall be conducted no less than one time per day of paint booth operation. A log of the filter inspections shall be maintained on site and available for inspection by Bureau representatives during normal business hours. Saturated filters shall be changed in a timely manner before paint booth operations resume.
- 1.3. Visible emissions from the paint booth exhaust shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. This opacity limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control. §4-8(e)(2).
- 1.4. The maximum allowable particulate emissions from the Large Fittings Paint Spray Booth exhaust stack (S068) shall be 0.03 pounds per hour. This emissions limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control. §4-8(e)(2).
- 1.5. Only natural gas may be burned as fuel in cement lining and coating drying ovens.
- §4-2; §4-8; §4-57
- 2.0. Visual emissions inspections of the Cement Lining Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. The maximum emissions of sulfur dioxide (SO₂) from the drying ovens shall be limited to 0.002 pounds per hour and 0.009 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the drying ovens. §4-2; §4-57

- 4.0. The maximum emissions of nitrogen oxides (NO_x) from the drying ovens shall be limited to 0.35 pounds per hour and 1.53 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the drying ovens. §4-2; §4-57
- 5.0. The volatile organic compound (VOC) content of all coatings applied in the Cement Lining Building shall not exceed 3.5 pounds per gallon less water and exempt solvents as delivered to the applicator. A log shall be maintained of the data reflecting the date and quantity of coatings and cleaning solvents used during operations in the Cement Lining Building. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25.21; §4-57; §4-60

EMISSION UNIT 116 – SPECIAL COATINGS OPERATION

Special Coating Spray Booth (E105)

Special Coating Drying Oven (E106)

- 1.0. The maximum emissions of particulate matter resulting from the Special Coatings Operation shall be limited to 0.993 pounds per hour and 4.37 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the Special Coating Spray Booth shall be vented through the dry filter system (CD036). This filter system shall be in place at all times during spray booth operations.
 - 1.2. A visual inspection of the dry filters shall be conducted no less than one time per day of spray booth operation. A log of these filter inspections shall be maintained on site and available for inspection by Bureau representatives during normal business hours. Saturated filters shall be changed in a timely manner before spray booth operations resume.
 - 1.3. Visible emissions from the spray booth exhaust shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period.
 - 1.4. Only natural gas may be burned as fuel in the Special Coatings Drying Oven.

§4-2; §4-57

- 2.0. Visual emissions inspections of the Shipping Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. The maximum emissions of sulfur dioxide (SO₂) resulting from the Special Coating Drying Oven shall be limited to 0.008 pounds per hour and 0.04 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the Special Coating Drying Oven. §4-2; §4-57
- 4.0. The maximum emissions of nitrogen oxides (NO_x) resulting from the Special Coating Drying Oven shall be limited to 0.12 pounds per hour and 0.53 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the Special Coatings Drying. §4-2; §4-57
- 5.0. The volatile organic compounds (VOC) content of all coatings used in the Special Coatings Operation shall not exceed 3.5 pounds per gallon of coating less water and exempt solvents as delivered to the applicator. A log shall be maintained of the data reflecting the amount, date, and type of coatings and solvents used in the Special Coating Operation. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25; §4-57

EMISSION UNIT 117 – No.4 UNIT GREENSAND MOLD SYSTEM

Sand Conveying (E029)
Sand Screening (E030)
Returned Sand Storage Silo (E031)
No.4 Unit Greensand Mullors East and West (E032)
No.4 Unit Mold Making (E033)
Greensand Binder Storage Silo (E034)
Binder Conveying (E035)

1.0. The maximum emissions of particulate matter resulting from the No.4 Unit Greensand Mold System shall be limited to 4.48 pounds per hour and 19.03 tons per year. Compliance with this emission limitation shall be achieved by the following:

- 1.1. The exhaust from the No.4 Unit Greensand Binder Storage Silo loading operation shall be vented through the No.4 Greensand Storage Silo baghouse (CD015). This baghouse shall be in operation at all times during silo loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
- 1.2. The maximum allowable particulate emissions from the No.4 Greensand Storage Silo baghouse (CD015) stack (S036) shall be 0.171 pounds per hour.
- 1.3. The exhaust from sand screening shall be vented through the No.4 Sand Screening baghouse (CD014). This baghouse shall be in operation at all times during sand screening operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
- 1.4. The maximum allowable particulate emissions from the No.4 Sand Screening baghouse (CD014) stack (S033) shall be 2.571 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the exhaust flow rate.
- 1.5. Preventative maintenance on the No.4 Unit Greensand Binder Storage Silo baghouse (CD015) and the No.4 Sand Screen baghouse (CD014) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours.

§4-2; §4-41, Rule 26.12; §4-57; §4-60

2.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*

EMISSION UNIT 118 – No.10 UNIT AIRSET MOLD SYSTEM

Pneumatic Sand Transporter to Mold Sand Silo (E040)

Sand Heaters (E041)

Sand Mixers (E042)

Mold Forming (E043)

- 1.0. The maximum emissions of particulate matter resulting from the No.10 Unit Airset Mold System shall be limited to 4.31 pounds per hour and 18.85 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from silo loading shall be vented through the No.10 Unit Mold Sand Tank baghouse (CD019). This baghouse shall be in operation at all times during the silo loading process except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-41, Rule 26.12; §4-57
 - 1.2. The maximum allowable particulate emissions from the No.10 Unit Mold Sand Tank baghouse (CD019) stack (S041) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust rate. §4-41, Rule 26.12
 - 1.3. The exhaust from pneumatic transport operations shall be vented through the No.10 Unit Mold Sand Heaters baghouse (CD020). This baghouse shall be in operation at all times during sand transport and sand heater operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-41, Rule 26.12; §4-57
 - 1.4. The maximum allowable particulate emissions from the No.10 Mold Sand Heaters baghouse (CD020) stack (S008B) shall be 0.103 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12
 - 1.5. The exhaust from the No.10 Unit Mold Sand mixers shall be vented through the No.10 Unit Mold Sand Mixer No.1 baghouse (CD021) and No.10 Unit Mold Sand Mixer No.2 baghouse (CD022). These baghouses shall be in operation at all times during sand transport and sand heater operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-41, Rule 26.12; §4-57
- 2.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 119 – No.10 UNIT SAND RECLAMATION

Size Reduction Process (E036)

Classifier Process (E037)

MacCawber Pneumatic Sand Transporter to Reclaimed Sand No.1 Bulk Silo (E038)

MacCawber Pneumatic Sand Transporter to New Sand No.2 Bulk Silo (E039).

- 1.0. The maximum emissions of particulate matter resulting from the No.10 Unit Sand Reclamation process shall be limited to 1.80 pounds per hour and 3.61 tons per year. Compliance with this emission limitation shall be achieved by the following:
 - 1.1. All emissions from the sand reclaimer and size reducer shall be vented through the Fines Baghouse (CD016). This baghouse shall be in operation at all times during sand reclamation and size reduction except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the Fines Baghouse (CD016) stack (S037) shall be 0.38 pounds per hour. This emissions limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.3. All emissions from the classifier shall be vented through the Sand Reclaimer Classifier baghouse (CD017). This baghouse shall be in operation at all times during the clarification process except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.4. The maximum allowable particulate emissions from the Sand Reclaimer Classifier baghouse (CD017) stack (S038) shall be 0.02 pounds per hour. This emissions limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.5. All emissions from the loading of Reclaimed Sand No.1 and No.2 Bulk Silos shall be vented through the Bulk Sand Silo baghouse (CD018). This baghouse shall be in operation at all times during the loading of these silos except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.6. The maximum allowable particulate emissions the Bulk Sand Silo baghouse (CD018) stack (S040) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow. §4-41, Rule 26.12
 - 1.7. Operation of the No.10 Unit Sand Reclamation equipment shall not exceed 4000 hours in any 365 consecutive-day period. This limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Bureau. §4-8(e)(2); §4-57

- 2.0. Preventative maintenance of these baghouses (CD016-CD018) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57
- 3.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 120 – No.9 UNIT GREENSAND MOLD SYSTEM

Sand Conveying (E022)
Sand Screening Drum (E023)
Sand Return to Storage Silo (E024)
Greensand Mullors A and B (E025)
Herman Mold Machine (E026)
Binder Unloading to Storage Silo (E027)
Binder Conveying (E028)

- 1.0. The maximum emissions of particulate matter resulting from the No.9 Unit Greensand Mold System shall be limited to 12.98 pounds per hour and 54.16 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the sand screening drums shall be vented through the Sand Screening Drum Cyclones (CD009). These cyclones shall be in operation at all times during sand screening operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the Sand Screening Drum cyclones (CD009) stack (S025) shall be 0.75 pounds per hour. This emissions limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.3. Operation of the No.9 Unit Greensand Mold System shall not exceed 4000 hour in any 365-consecutive-day period. This limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.4. The exhaust from the loading of the Greensand Binder Storage Silo shall be vented through the No.9 Unit Greensand Binder Storage Silo bin vent filter (CD010). This bin vent filter shall be in operation at all times during silo loading except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.5. The exhaust from Binder Conveyor A shall be vented through the conveyor baghouse (CD012). This baghouse shall be in operation at all times during binder conveying operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.6. The exhaust from Binder Conveyor B shall be vented through the conveyor baghouse (CD013). This baghouse shall be in operations at all times during binder conveying operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.7. The maximum allowable particulate emissions from each binder conveyor baghouse (CD012-013) shall be 0.457 pounds per hour based on a grain loading of 0.020

grains per dry standard cubic foot and the reported exhaust flow rate. §4-41; Rule 26.12; §4-57

§4-2; §4-57; §4-60

- 2.0. Visual emissions inspections of the Main Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 121 – SHELL CORES PROCESS

Shell Core Sand Handling (E082)

Shell Core Heating (E083)

- 1.0. The maximum emissions of particulate matter from the Shell Cores Process shall be limited to 1.12 pounds per hour and 4.91 tons per year. §4-41, Rule 10; §4-57; §4-60
- 2.0. Visual emissions inspections of the Shell Cores Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. The maximum emissions of sulfur dioxide (SO₂) resulting from Shell Core Heating operations shall be limited to 0.001 pounds per hour and 0.005 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the shell core sand heater. §4-2; §4-57
- 4.0. The maximum emissions of nitrogen oxides (NO_x) resulting from Shell Core Heating operations shall be limited to 0.185 pounds per hour and 0.81 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the shell core sand heater. §4-41, Rule 2; §4-57

EMISSION UNIT 122 – AIRSET CORE SYSTEM

Airset Binder Bulk Storage Tank (E046)

Airset Acid Bulk Storage Tank (E048)

Pneumatic Conveying for Airset Core Sand Silo (E050)

Sand Heater (E051)

Sand Mixer (E052)

Core Forming (E053)

- 1.0. The maximum emissions of particulate matter resulting from the Airset Core System shall be limited to 5,314 pounds per hour and 23.28 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from loading of the airset sand silo shall be vented through the Airset Core Sand Tank baghouse (CD023). This baghouse shall be in operation at all times during the airset sand silo loading process except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.2. The exhaust from the sand heating process shall be vented through the Airset Core Heater cyclone (CD024) and Airset Core Sand Tank baghouse (CD023). This cyclone and baghouse shall be in operation at all times during the sand heating process except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.3. The maximum allowable particulate emissions from the Airset Core Sand Tank baghouse (CD023) stack (S045) shall be 0.171 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate.

§4-2; §4-41, Rule 26.12; §4-57
- 2.0. Preventative maintenance for this baghouse and cyclone (CD023 and CD024) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business. *§4-57*
- 3.0. Visual emissions inspections of the Airset Core Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*

EMISSION UNIT 123 – ISOCURE CORE SYSTEM

Isocure Part 1 Bulk Storage Tank (E054)
Isocure Part 2 Bulk Storage Tank (E057)
No.3 Bulk Sand Silo (E060)
No.3 and No.4 Isocure Sand Silo (E061)
No.5 Isocure Sand Silo (E062)
No.3, No.4, & No.5 Isocure Sand Heaters (E063-E065)
No.3, No.4, and No.5 Sand Mixers (E066-E068)
Isocure Machines No.3, No.4, & No.5 (E069-E071)
No.6 & No.7 Isocure Sand Silo (E122)
No.6 & No.7 Sand Heaters (E123-E124)
Isocure Machines No.6, No.7, & No.8 (E129-E131)

- 1.0. The maximum emissions of particulate matter from the Isocure Core System shall be limited to 1.26 pounds per hour and 5.52 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the loading of the No.3 Bulk Sand Silo (E060) shall be vented through the Farr Bulk Sand Silo baghouse (CD025). This baghouse shall be in operation at all times during silo loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.2. The maximum allowable particulate emissions from the Bulk Sand Silo baghouse (CD025) stack (S048) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. These stack emissions are combined emissions from Bulk Sand Silo loading (E060 of Emission Unit 123) and Pepset Sand Heater Operation (E077 of Emission Unit 124).
§4-41, Rule 26.12
 - 1.3. The exhaust from the loading of the No.3 and No.4 Isocure Sand Silo (E061) shall be vented through the No.3 and No.4 Isocure Sand Silo baghouse (CD026). This baghouse shall be in operation at all times during sand loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.4. The maximum allowable particulate emissions from the No.3 & No.4 Isocure Sand Silo baghouse (CD026) stack (S049) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. *§4-41, Rule 26.12*
 - 1.5. The exhaust from the loading of the No.5 Isocure Sand Silo shall be vented through the No.5 Isocure Sand Silo baghouse (CD027). This baghouse shall be in operation at all times during sand loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability.
 - 1.6. All emissions from the sand heaters (E063-E065) shall be vented through the Sand Heaters cyclones (CD028-030) and the Sand Silo baghouses (CD026-027). These

cyclones and baghouse shall be in operation at all times during sand heater operation except in accordance with Condition 13.0 of the Conditions of General Applicability.

- 1.7. The maximum allowable particulate emissions from the No.5 Isocure Sand Silo baghouse (CD027) stack (S050) shall be 0.17 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. *§4-41, Rule 26.12*
- 1.8. The exhaust from the loading of the No.6 & No.7 Isocure Sand Silo (E122) and the pneumatic transport of sand to the No.6 & No.7 Sand Heaters (E123-E124) shall be vented through the No.6 & No.7 Isocure Sand Silo baghouse (CD043). This baghouse shall be in operation at all times during silo loading operations except in accordance with Condition 13.0 of the Conditions of General Applicability. *§4-41, Rule 27; §4-57*
- 1.9. The maximum allowable particulate emissions from the No.6 & No.7 Isocure Sand Silo baghouse (CD043) stack (S086) shall be 0.17 pounds per hour. *§4-41; Rule 27; §4-57*

These limitations and conditions have been determined to be reasonable and proper by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. *§4-41, Rule 27; §4-57*

- 2.0. Preventative maintenance on these control devices (CD025-CD030) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. *§4-57*
- 3.0. Visual emissions inspections of the Shell Core Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*
- 4.0. The maximum allowable emissions of volatile organic compounds (VOC) resulting from Isocure Core Machine Nos. 3, 4, 5, 6, 7, and 8 shall be 28.67 tons per rolling twelve months. Compliance with this emission limitation shall be demonstrated by the following:
 - 4.1. The total usage of isocure core resins shall not exceed 750,000 pounds in any 365 consecutive-day period.
 - 4.2. The maximum allowable volatile organic compound content for Part I resins used in the isocure core machines shall be 35 percent by weight as determined by U.S. EPA Test Method 24, Title 40 *Code of Federal Regulations* Part 60; Appendix A (July 1, 1996) and in accordance with the provisions of §4-3 of the Chattanooga Air Pollution Control Ordinance.

- 4.3. The maximum allowable volatile organic compound content for Part II resins used in the isocure core machines shall be 25 percent by weight as determined by U.S. EPA Test Method 24, Title 40 *Code of Federal Regulations* Part 60, Appendix A (July 1, 1996) and in accordance with §4-3 of the Chattanooga Air Pollution Control Ordinance.
- 4.4. The total usage of triethylamine shall not exceed 45,000 pounds in any 365 consecutive-day period.
- 4.5. Emissions of triethylamine from the isocure process shall be vented through the packed tower acid scrubbers. An operating pH for the acid scrubbers shall be maintained at or below 5.0 as measured at the scrubber drain. This pH reading shall be recorded daily in a log. This log shall be maintained on site and available for inspection by Bureau representative upon request during normal business hours.

This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25.3

- 5.0. The owner or operator of this source shall utilize appropriate methods and technology to control onsite gaseous emissions so as to prevent odors from these emissions from being detected beyond the plant property boundary. This condition has been determined to be reasonable and proper by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 12 (*Local Only*), Rule 23

EMISSION UNIT 124 – PEPSET CORE MAKING

Pepset Binder Bulk Storage Tank (E073)

Pepset Acid Bulk Storage Tank (E075)

Pepset Sand Heater (E077)

Sand Mixer (E078)

Core Forming (E079)

- 1.0. The maximum emissions of particulate matter resulting from the pepset core making process shall be limited to 0.41 pounds per hour and 1.81 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the sand heater shall be vented through the Pepset Sand Heater cyclone (CD033) and the No. 3 Bulk Sand Silo baghouse (CD025). This cyclone and baghouse shall be in operation at all times during the pepset core making process except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the No.3 Bulk Sand Silo baghouse (CD025) stack (S048) shall be 0.01 pounds per hour. §4-2; §4-57
- 2.0. Visual emissions inspections of the Shell Core Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Condition Applicable to the Entire Facility. §4-57
- 3.0. Preventative maintenance for the Pepset Sand Heater cyclone (CD033) and the No.3 Bulk Sand Silo baghouse (CD025) shall be performed in accordance with United States Pipe and Foundry Company's written plans and procedures. These plans and procedures shall be maintained on the premises and available for inspection by representatives of the Chattanooga-Hamilton County Air Pollution Control Bureau during normal business hours. §4-57

EMISSION UNIT 125 – REFRACTORY COATING OPERATIONS

Refractory Coating (E072)

Flame-off (E081)

- 1.0. The maximum emissions of particulate matter resulting from Refractory Coating Flame-off operations (E081) shall be limited to 0.0003 pounds per hour and 0.002 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the flame-off burner. §4-2; §4-57; §4-60
- 2.0. The maximum emissions of sulfur dioxide (SO₂) resulting from Refractory Coating Flame-off operations (E081) shall be limited to 0.0003 pounds per hour and 0.002 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the flame-off burner. §4-2; §4-57; §4-60
- 3.0. The maximum emissions of nitrogen oxides (NO_x) resulting from Refractory Coating Flame-off operations (E081) shall be limited to 0.057 pounds per hour and 0.248 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the flame-off burner. §4-2; §4-57; §4-60
- 4.0. The maximum allowable emissions of volatile organic compounds (VOC) resulting from Refractory Coating operations (E072) shall be 24.74 pounds per hour and 49.49 tons per rolling twelve months. Compliance with this emission limitation shall be demonstrate by multiplying the amount of isopropanol used in the Refractory Coating operation by the emission factor of 2000 pounds of VOC per ton of isopropanol less 50 percent control efficiency for molds cores subject to the flame-off process. §4-41, Rule 25; §4-57

EMISSION UNIT 126 – PACKAGING AND SHIPPING AREA

Asphalt Coating Bulk Storage Tank No.1 (E107)

Asphalt Coating Bulk Storage Tank No.2 (E108)

Touchup Coating (E109)

- 1.0. The maximum allowable emissions of particulate matter resulting from touchup coating operations shall not exceed 0.51 pounds per hour per spray gun. Compliance with this emission limitation shall be met by a zero percent opacity limitation for touchup coating operations. §4-41, Rule 10; §4-57
- 2.0. The volatile organic compound (VOC) content of all coatings used in the packaging and shipping area shall not exceed 3.5 pounds per gallon of coating less water and exempt solvents as delivered to the applicator. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25.2; §4-57
- 3.0. A log shall be maintained of the data reflecting the amount, date, and type of coatings and solvents used in the packaging and shipping area. §4-57

EMISSION UNIT 127 – ANCILLARY FITTING PLANT OPERATIONS

Cupola Baghouse Dust Solidification (E110)

Cupola Drying (E111)

Pattern Shop (E113)

Ladle Pre-heat (E114)

Bathhouse Boiler (E115)

Asphalt Hot Oil Heater (E116)

- 1.0. The maximum allowable emissions of particulate matter resulting from Cupola Baghouse Dust Solidification operations shall be 0.003 pounds per hour and 0.009 tons per year. This emission limitation shall be met by the following:

1.1. The exhaust from the pneumatic conveying of cupola dust in the Cupola Baghouse Dust Solidification process shall be vented through the Cupola Baghouse Dust Solidification baghouse (CD037). This baghouse shall be in operation at all times during Cupola Baghouse Dust Solidification operations.

1.2. Visible emissions from Cupola Baghouse Dust Solidification shall not exceed ten percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period.

1.3. Visual emissions inspection of the emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility.

This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57

- 2.0. The maximum combined emissions of particulate matter from these combustion sources (E111, E114, E115, & E116) shall be limited to 0.051 pounds per hour and 0.192 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in cupola drying operations. §4-2; §4-41, Rule 8.2; §4-57

- 3.0. An emission capture system shall be in operation at all times during Pattern Shop (E113) operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57

- 4.0. All captured emissions from the pattern shop equipment shall be vented through the pattern shop cyclone (CD039). This cyclone shall be in operation at all times during pattern shop operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57

- 5.0. The maximum allowable emissions of particulate matter from the pattern shop cyclone (CD039) stack (S078) shall be 3.86 pounds per hour and 16.9 tons per year based on a grain loading of 0.030 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.18; §4-57

- 6.0. Visual emissions inspection of the emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 7.0. The maximum combined emissions of sulfur dioxide (SO₂) resulting from these combustion sources (E111, E114, E115, & E116) shall be limited to 0.003 pounds per hour and 0.011 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. §4-2; §4-57
- 8.0. The maximum combined emissions of nitrogen oxides (NO_x) resulting from these combustion sources (E111, E114, E115, & E116) shall be limited to 0.466 pounds per hour and 1.76 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. §4-2; §4-57

EMISSION UNIT 128 – FUSION BONDED EPOXY PROCESS

BCP Cabinet Blast Cleaner (E117)
GLA Burn-off Oven with Afterburner (E123)
FBE Rotoblast Barrels (E134, E135, E136)
FBE Airblast Cleaner (E137)

- 1.0. The maximum emissions of particulate matter from the BCP Cabinet Blast Cleaner (E117), FBE Rotoblast Barrels (E134, E135, E136), FBE Airblast Cleaner (E137) operations shall be limited to 2.95 pounds per hour and 12.95 tons per year. Compliance with this emissions limitation shall be met by the following:
- 1.1. All captured emissions from the BCP Cabinet Blast Cleaner (E117) shall be vented through the cabinet blast cleaner baghouse (CD040). This baghouse shall be in operation at all times during cabinet blast cleaner operation except in accordance with Condition 13.0 of the Conditions of General Applicability.
- 1.2. All captured emissions from the FBE Rotoblast Barrels (E134, E135, E136) shall be vented through the FBE Rotoblast Barrels baghouse (CD048). This baghouse shall be in operation at all times during rotoblast table cleaner operation except in accordance with Condition 13.0 of the Conditions of General Applicability.
- 1.3. All captured emissions from the FBE Airblast Cleaner (E137) shall be vented through the FBE Airblast Cleaner baghouse (CD049). This baghouse shall be in operation at all times during airblast cleaner operation except in accordance with Condition 13.0 of the Conditions of General Applicability.
- 1.4. Operation of these baghouses shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility.

§4-2; §4-41, Rule 27.3; §4-57; §4-60

- 2.0. The maximum emissions of particulate matter from the GLA Burn-off Oven (E123) shall be limited to 0.10 pounds per hour and 0.438 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. This condition has been determined to be reasonable and proper control by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. *§4-2; §4-41, Rule 27.3; §4-57*
- 3.0. The maximum emissions of nitrogen oxides (NO_x) from the GLA Burn-off Oven and afterburner shall be limited to 0.60 pounds per hour and 2.63 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. *§4-41, Rule 2; §4-57*
- 4.0. The maximum emissions of sulfur dioxide (SO₂) from the GLA Burn-off Oven and afterburner shall be limited to 0.001 pound per hour and 0.0044 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this equipment. *§4-2; §4-57*

- 5.0. The maximum emissions of volatile organic compounds (VOC) from the GLA Burn-off Oven and afterburner shall be limited to 0.01 pounds per hour and 0.044 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
- 5.1. Only natural gas shall be burned as fuel in this equipment. This condition has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. *§4-41, Rule 25.3; §4-57*
- 5.2. All emissions resulting from the pyrolysis of epoxy coatings shall be vented through the GLA afterburner. This afterburner shall be in operation at all times during GLA oven operations. Operation of this oven and afterburner shall be in accordance with United States Pipe and Foundry Company, Inc.'s written plans and procedures, which shall include the manufacturer's recommendations. This condition has been determined to be reasonable and proper control by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. *§4-41, Rule 23*
- 6.0. Visible emissions inspection of the BCP Cabinet Blast Cleaner (E117), FBE Rotoblast Barrels (E134, E135, E136), GLA Burn-off Oven (E123) and the associated stacks (S081, S091, and S058, respectively) shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*
- 7.0. Visible emissions from the BCP Cabinet Blast Cleaner (E117), FBE Rotoblast Barrels (E134, E135, E136), FBE Airblast Cleaner (E137), GLA Burn-off Oven (E123) and the associated stacks (S081, S091, S092, and S058, respectively) shall not exceed an opacity of ten percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. This condition has been determined to be reasonable and proper control by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. *§4-41, Rule 27.3; §4-57*

EMISSION UNIT 201 – BRASS MELTING OPERATION

Electric Induction Furnaces No.1 and No.2 (EV001-EV002)

Hot Metal Transfer (EV003)

Ladle Preheat (EV004)

Electric Induction Furnaces No.3 and No.4 (EV049-EV050)

- 1.0. The maximum allowable emissions of particulate matter from the Brass Melting Operation shall be 2.57 pounds per hour and 11.26 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. All captured emissions from the electric induction furnaces shall be vented through the Brass Furnace baghouse (CDV01). This baghouse shall be in operation at all times during brass melting operations. §4-57
 - 1.2. Particulate emissions from the Brass Furnace baghouse (CDV01) stack (SV01) shall not exceed 2.57 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57
 - 1.3. The maximum hourly emissions of particulate matter from hot metal transfer operations shall be limited to 0.02 pounds per hour. §4-2; §4-57
 - 1.4. Visible emissions from hot metal transfer operations shall not exceed an opacity of twenty percent from an aggregate of more than three minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 11.1
 - 1.5. The maximum hourly emissions of particulate matter from the ladle pre-heater shall be limited to 0.02 pounds per hour. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the ladle pre-heater. §4-2; §4-57
- 2.0. Operation of the Brass Furnace baghouse (CDV01) shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 4.0. Brass melting at this facility shall not exceed 2553 tons in any 365-consecutive-day period. §4-57; Part 70 Application
- 5.0. The maximum emissions of sulfur dioxide (SO₂) from the ladle pre-heater shall be limited to 0.0003 pounds per hour and 0.0002 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the ladle pre-heater. §4-2; §4-57
- 6.0. The maximum emissions of nitrogen oxides (NO_x) from the ladle pre-heater shall be limited to 0.056 pounds per hour and 0.247 tons per year. Compliance with this emissions limitation

shall be demonstrated by burning only natural gas as fuel in the ladle pre-heater. §4-2; §4-57

EMISSION UNIT 202 – VALVE PLANT POURING, COOLING, SHAKEOUT

Shellsand Mold Pouring (EV005)

Greensand Mold Pouring (EV006)

Greensand Shakeout (EV007)

- 1.0. The maximum allowable emissions of particulate matter resulting from Pouring, Cooling, and Shakeout operations shall be 11.74 pounds per hour and 51.43 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The maximum allowable particulate emissions from the Shellsand Mold Pouring stack (SV03) shall be 2.74 pounds per hour based on a grain loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. *§4-41, Rule 26.12; §4-57*
 - 1.2. The maximum allowable particulate emissions from the Greensand Shakeout stack (SV05) shall be 8.93 pounds per hour. *§4-41, Rule 10; §4-57*
- 2.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. *§4-57*

EMISSION UNIT 203 – BRASS CLEANING OPERATION

Tumble Blast Operations (EV008-EV009)
Cut-off and Grinding Operations (EV010-EV012)

- 1.0. The maximum allowable emissions of particulate matter from brass cleaning operations shall be 1.32 pounds per hour and 5.79 tons per year. Compliance with this emissions limitation shall be demonstrated by the following:
 - 1.1. All captured emissions from tumble blast operation shall be vented through the Tumble Blast baghouse (CDV02). This baghouse shall be in operation at all times during tumble blast operations. §4-57
 - 1.2. The maximum allowable particulate emissions from the Tumble Blast baghouse (CDV02) stack (SV06) shall be 0.55 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57
 - 1.3. All emissions from the cut-off and grinding operations shall be vented through the Cut-off Saw and Pedestal Grinder baghouse (CDV03). This baghouse shall be in operation at all times during cut-off and grinding operations. §4-57
 - 1.4. The maximum allowable particulate emissions from the Cut-off Saw and Pedestal Grinder baghouse (CDV03) stack (SV07) shall be 0.77 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57
- 2.0. Operation of the Tumble Blast baghouse (CDV02) and the Saw and Pedestal Grinder baghouse (CDV03) shall be within the operational pressure drop range determined in accordance with the Compliance Monitoring requirements in Condition 7.2 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 204 – VALVE PLANT MOLD MAKING OPERATIONS

Greensand Mullor (EV013)
Greensand Mold Forming (EV014)
Shellsand Sand Handling (EV015)
Shell Mold Curing (EV016)
Cooling & Pasting Station (EV017)
Hunter Mold Machine (EV051)

- 1.0. The maximum emissions of particulate matter resulting Valve Plant Mold Making Operations shall be limited to 0.576 pounds per hour and 2.53 tons per year. Compliance with this emissions limitation shall be demonstrated by the following:
 - 1.1. All captured emissions from the Greensand Mullor shall be vented through the Greensand Preparation baghouse (CDV04). This baghouse shall be in operation at all times during greensand mulling operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the Greensand Preparation baghouse (CDV04) stack (SV08) shall be 0.6 pounds per hour based on a grain loading of 0.020 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12
 - 1.3. The maximum emissions of particulate matter from Shell Mold Curing operations shall be limited to 0.005 pounds per hour. Compliance with this emission limitation shall be demonstrated by burning only natural gas in the heat-curing process. §4-2; §4-57
 - 1.4. The exhaust from the Cooling and Pasting Station shall be vented through the Shell Molding baghouse (CDV05). This baghouse shall be in operation at all times during mold cooling and pasting operations except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.5. The maximum hourly emission rate for particulate matter from the Shell Molding baghouse (CDV05) stack (SV10) shall be limited to 0.003 pounds per hour. §4-2; §4-57
 - 1.6. The maximum hourly emission rate for particulate matter from the Hunter Mold Machine (EV051) shall be limited to 0.20 pounds per hour. This emission limitation has been determined to be reasonable and proper control by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 27.3; §4-57
- 2.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

- 3.0. The maximum emissions of sulfur dioxide (SO₂) resulting from Valve Plant Mold Making

operations shall be limited to 0.001 pounds per hour and 0.004 tons per year. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the heat-curing equipment. §4-2; §4-57

- 4.0. The maximum emissions of nitrogen oxides (NO_x) resulting from Valve Plant Mold Making operations shall be limited to 0.135 pounds per hour and 0.592 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the heat-curing equipment. §4-2; §4-57
- 5.0. The maximum emissions of volatile organic compounds (VOC) from the Hunter Mold Machine (EV051) shall be limited to 1.23 pounds per hour and 1.44 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 5.1. The VOC content of mold release agents used in this process shall not exceed 6.75 pounds per gallon as applied.
 - 5.2. The owner or operator of this source shall maintain a monthly log documenting the amount of mold release agent used in conjunction with this equipment and the resulting VOC emissions. This log shall contain, at a minimum, the amount of mold release agent used, the VOC content as documented on the most recent Material Safety Data Sheet, and the VOC emissions for that month. This log shall be maintained on the premises and available for inspection by Bureau representatives during normal business hours. This log shall be kept on file in accordance with Condition 4.0 of the Conditions Applicable to the Entire Facility.

These conditions have been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-41, Rule 25.3; §4-57

EMISSION UNIT 205 – VALVE PLANT CORE MAKING

Shell Core Sand Handling (EV018)

Shell Core Sand Curing (EV019)

Airset Core Sand Mixer (EV020)

Airset Core Forming (EV021)

- 1.0. The maximum emissions of particulate matter resulting from Valve Plant Core Making Operations shall be limited to 0.079 pounds per hour and 0.346 tons per year. §4-2; §4-57; §4-60
- 2.0. Visible emissions from the Brass Foundry Building shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 26.12
- 3.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 4.0. The maximum emissions of sulfur dioxide (SO₂) resulting from Valve Plant Core Making Operations shall be limited to 0.0004 pounds per hour and 0.0018 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the Sand Curing equipment. §4-2; §4-57
- 5.0. The maximum emissions of nitrogen oxides (NO_x) resulting from Valve Plant Core Making Operations shall be limited to 0.067 pounds per hour and 0.295 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in the Sand Curing equipment. §4-2; §4-57

EMISSION UNIT 206 – VALVE & HYDRANT PRODUCTION

Small Valve Paint Booth (EV022)

Large Valve Touchup Coating Operation (EV023)

Hydrant Production Paint Booth (EV024)

- 1.0. The maximum emissions of particulate matter resulting from valve product operations shall be limited to 0.47 pounds per hour and 2.03 tons per year. Compliance with this emissions limitation shall be demonstrated by the following:
- 1.1. All emissions from the Small Valve Paint Booth shall vented through the dry filter assembly (CDV06). These dry filters shall be in place and the exhaust fan operating at all times during this surface coating operation.
 - 1.2. The maximum hourly stack emissions of particulate matter from the Small Valve Paint Booth stack (SV11) shall be limited to 0.006 pounds per hour.
 - 1.3. All emissions from the Hydrant Production Paint Booth shall be vented through the dry filter assembly (CDV07). These dry filters shall be in place and the exhaust fan shall be operating at all times during this surface coating operation.
 - 1.4. The maximum hourly stack emissions of particulate matter from the Hydrant Production Paint Booth stack (SV13) shall be limited to 0.022 pounds per hour.
 - 1.5. Visible emissions from the paint booth exhaust stacks shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period.
 - 1.6. A visual inspection of the dry filters shall be conducted no less than one time per day of paint booth operation. A log of the filter inspections shall be maintained on site and available for inspection by Bureau representative during normal business hours. Saturated filters shall be changed in a timely manner before paint booth operations resume.
- §4-2; §4-57; §4-60
- 2.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57
- 3.0. The volatile organic compound (VOC) content for all coatings used in valve and hydrant production shall not exceed 3.5 pounds per gallon of coating, less water and exempt solvents, as delivered to the applicator. A log shall be maintained containing the date and amount of coatings applied in these surface coating operations. This log shall be maintained on the premises and available for inspection upon request by Bureau representatives during normal business hours. These records shall be kept for a period of two years after the date of entry. §4-2; §4-41, Rule 25.21; §4-57

EMISSION UNIT 207 – RESILIENT SEAT VALVE PRODUCTION

Pangborn Rotoblast Cleaner (EV025)

Pangborn Airblast Cleaner (EV026)

- 1.0. The maximum emissions of particulate matter resulting from Resilient Seat Valve Production shall be limited to 0.99 pounds per hour and 4.34 tons per year. Compliance with this emission limitation shall be demonstrated by the following:
 - 1.1. The exhaust from the Pangborn Rotoblast Cleaner shall be vented through the RS Valve Cleaning baghouse (CDV08). This baghouse shall be in operation at all times during rotoblast cleaner operation except in accordance with Condition 13.0 of the Conditions of General Applicability. §4-57
 - 1.2. The maximum allowable particulate emissions from the RS Valve Cleaning baghouse (CDV08) stack (SV14) shall be 0.219 pounds per hour based on a grain loading of 0.053 grains per dry standard cubic foot and the reported exhaust flow rate. This emission limitation has been determined to be Best Available Control Technology (BACT) by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. §4-8(e)(2); §4-57
 - 1.3. The maximum allowable particulate emissions from the Airblast baghouse (CDV10) stack (SV15) shall be 0.771 pounds per hour based on a grain-loading of 0.02 grains per dry standard cubic foot and the reported exhaust flow rate. §4-41, Rule 26.12; §4-57
- 2.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

EMISSION UNIT 208 – ANCILLARY VALVE & HYDRANT PLANT OPERATIONS

Lead Melting Kettles (EV031-EV032)

Resilient Seat Valve Burn-off Oven (EV033)

Hot Water Heaters No.1 & No.2 (EV034-EV035)

Special Coatings Paint Booth (EV036)

1.0. The maximum emissions of particulate matter from these ancillary operations shall be limited to 0.52 pounds per hour and 2.28 tons per year. Compliance with this emissions limitation shall be demonstrated by the following:

1.1. The maximum allowable emissions of particulate matter from lead kettle heating shall be 0.17 pounds per hour. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in the kettle burners. §4-41, Rule 8.1

1.2. Emissions of particulate matter from the Resilient Seat Valve Burn-off Oven stack (SV21) shall not exceed 0.345 pounds per hour. Compliance with this emission limitation shall be demonstrated by burning only natural gas as fuel in this oven. §4-41, Rule 8.1

1.3. Hourly emissions of particulate matter from the Special Coatings Paint Booth stack (SV24) shall not exceed 0.002 pounds per hour. Compliance with this emission limitation shall be met by the following:

1.3.1. All emissions from the Special Coatings Paint Booth shall be vented through the dry filter assembly (CDV12). These dry filters shall be in place and the exhaust fan operating at all times during booth operation.

1.3.2. A visual inspection of the dry filters shall be conducted no less than one time per day of paint booth operation. A log of the filter inspections shall be maintained on site and available for inspection by Bureau representatives during normal business hours. Saturated filters shall be changed in a timely manner before paint booth operations resume.

1.3.3. Visible emissions from the Special Coatings Paint Booth stack (SV24) shall not exceed an opacity of five percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period.

§4-2; §4-57; Part 70 Permit Application Request by Permittee.

2.0. Visual emissions inspections of the Brass Foundry Building and emission unit stacks shall be conducted in accordance with Condition 7.1 of the Conditions Applicable to the Entire Facility. §4-57

- 3.0. The maximum emissions of sulfur dioxide (SO₂) shall be limited to 0.001 pounds per hour and 0.004 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in these combustion sources. §4-2; §4-57
- 4.0. The maximum emissions of nitrogen oxides (NO_x) shall be limited to 0.124 pounds per hour and 0.543 tons per year. Compliance with this emissions limitation shall be demonstrated by burning only natural gas as fuel in these combustion sources. §4-2; §4-57
- 5.0. The volatile organic compound (VOC) content for all coatings used in the special coatings paint booth shall not exceed 3.5 pounds per gallon of coating, less water and exempt solvents, as delivered to the applicator. A log shall be maintained containing the date and amount of coatings applied in these surface coating operations. §4-41, Rule 25.21; §4-57

EMISSION UNIT 301 – SOLID WASTE LANDFILL

- 1.0. Visible emissions from material-handling operations at the solid waste landfill shall not exceed an opacity of ten percent for an aggregate of more than fifteen minutes in any one hour or more than sixty minutes in any twenty-four-hour period. §4-41, Rule 26.11; §4-57
- 2.0. Visible emissions, other than those from material handling operations shall not exceed an opacity of ten percent for an aggregate of more than five minutes in any one hour or more than twenty minutes in any twenty-four-hour period. §4-41, Rule 3.1; §4-57

PERMIT SHIELD

At the request of the responsible official who signed and certified to the Part 70 permit application, compliance with the conditions of this permit shall be deemed compliance with any "applicable requirements", as defined in §4-53 of the Chattanooga Air Pollution Control Ordinance, as of the date of permit issuance that are included and specifically identified in this permit. This permit shield does not apply to past applicability determinations made by the facility governing major new source review. No other requirements are identified as applicable as of the date of issuance of this permit to this permittee, but the Director reserves the right to reopen this permit pursuant to Condition 15.0 of the Conditions of General Applicability and to modify this permit pursuant to Condition 17.0 of the Conditions of General Applicability. This permit shield does not alter or affect the following:

- (a) The provisions of Title 42 U.S.C. §7603 (emergency orders), including the authority of the Administrator or of the Chattanooga-Hamilton County Air Pollution Control Board or Bureau Director thereunder;
- (b) The liability of a permittee of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- (c) The applicable requirements of the acid rain program promulgated under Title IV of the Clean Air Act consistent with Title 42 U.S.C. 7651g.(a);
- (d) The ability of EPA to obtain information from a source pursuant to Title 42 U.S.C. §7414; or of the Board or Bureau Director to obtain information from a source pursuant to the Chattanooga Air Pollution Control Ordinance or any other provision of local, state or federal law; and §4-57(f)
- (e) The right of any person to damages or other relief on account of injury to persons or property and to maintain any action or other appropriate proceeding therefor; nor does it abridge, limit, impair, create, enlarge or otherwise affect substantively or procedurally this right.



UNITED STATES PIPE AND FOUNDRY COMPANY

Chattanooga Valve & Fittings Plant
P.O. Drawer 311
CHATTANOOGA, TENNESSEE 37401

March 6, 1995

Ms. Diane L. Arnst
Staff Attorney
Chattanooga-Hamilton County
Air Pollution Control Bureau
3511 Rossville Boulevard
Chattanooga, Tennessee 37407-2495

Dear Ms. Arnst:

In response to your letter of February 22, 1995, we offer the following explanation.


Our cupola baghouse has 21 sections. Each section is capable of being isolated by closing the damper to the section with a pneumatic operator. This damper is closed when the bags are being shaken down or when one or more bags fail. On occasion when a bag leaks, the melting foreman takes action to isolate one or more sections. Normal troubleshooting procedure is to close sections until the smoking has subsided. This procedure may require closing more than one section before smoking ceases, and requires time to complete once smoking is observed. Sections remain closed for the balance of the heat and leaking bags are changed before the next day of cupola operations.

During cupola operations on February 14, 1995, the baghouse was observed to be smoking. The troubleshooting resulted in closing three sections before smoking ceased. Smoking was caused by leaking bags in two sections; these bags were replaced and the baghouse started the following day without smoking.

Such incidents are not the result of improper maintenance nor do we take them lightly. All employees who work in the melting/baghouse area have been instructed to frequently observe and monitor baghouse performance and report excessive emissions to the melting foreman. Other key management personnel are also encouraged to monitor for and report smoking conditions. Immediately upon a report of a smoking condition, we respond with efforts to eliminate the emissions. Also, we are reviewing our reporting procedures to insure compliance with the regulation.

If you require further information (or want to discuss this), do not hesitate to contact me at 752-3912 or Jim Smallwood at 752-3910.

Respectfully submitted,


Dennis Urbaniak
Project Engineer

DU:tr

G. O. ENG.

MAR 8 1995

RECEIVED

STD-507 REV. 6-87

UNITED STATES PIPE AND FOUNDRY COMPANY
3300 FIRST AVENUE NORTH 35222
POST OFFICE BOX 10406
BIRMINGHAM, ALABAMA 35202

FACSIMILE TRANSMISSION

TO: FIRM NAME: CK & F

ATTENTION: Dennis V.

FAX NUMBER: _____

FROM: J Pleasant

SPECIAL INSTRUCTIONS: Comments?

NUMBER OF PAGES TO FOLLOW: 3

DATE: 3.3.95

OUR TELEPHONE NUMBER: (205) 254-7000

OUR FAX NUMBER: (205) 254-7494

MWPS011923

Air Pollution Control Bureau
3511 Rossville Boulevard
Chattanooga, Tennessee 37407-2495

Suggestions, Please.

Dear Ms. Arnst:

In response to your letter of February 22, 1995, we offer the following explanation.

Our cupola baghouse has 21 sections. Each section is capable of being isolated by closing the damper to the section with a pneumatic operator. This damper is closed when the bags are being shaken down or when one or more bags ^{fall} leak. ~~It is not uncommon for the cupola operator to have to isolate one or more sections due to leaking bags. By the very nature of air currents in and around the baghouse, there is not a precise method of determining which section(s) may have leaking bags. Normal troubleshooting procedure is to close the damper to the section(s) that is suspected of having a leak and then to observe the baghouse to determine if the smoking has subsided. If it is still smoking, another section is closed. This procedure may require closing multiple section(s) before smoking ceases, and may require an excess of one half hour. Leaking bags would then be changed before the next day of cupola operations.~~

more than one multiple section(s) before smoking ceases, and may require an excess of one half hour. Leaking bags would then be changed before the next day of cupola operations.

all employees working around the cupola are instructed to observe smoking.

During cupola operations on February 14, 1995, the baghouse was observed to be smoking. The troubleshooting resulted in closing three sections before smoking ceased. *Smoking was caused by* The nightly maintenance discovered bags in two sections that ~~had been~~ detached from the caps. These bags were replaced and the baghouse started the following day without smoking.

① Such incidents are not the result of improper maintenance nor do we take them lightly. Immediately upon becoming aware of a smoking condition, we respond with efforts to eliminate the emissions. ~~Again, the nature of the baghouse reduces the likelihood that such a condition can be corrected within five minutes.~~ Therefore we are reviewing our log-keeping and reporting procedures to insure compliance with the regulation. *in addition,*

If you require further information (or want to discuss this), do not hesitate to contact me at 752-3825 or Jim Smallwood at 752-3910.

Respectfully submitted,

* P (Suggested) ① see back page.

Wayne A. Berry

④ (need to address other "cause" issues, such as:)

- 1) were caps failed, corroded, shredded etc? Or did bags slip off the top of the caps leaving them intact? Did cap hooks detach from J-Bolt, indicating improper "Tensioning"/ hanging problem? Is the failure unusual?

then, address the issue of how CV&F is resolving the problem, such as (assuming it was a tensioning problem):

"Maintenance personnel were reminded of the importance of proper bag installation procedures and have been instructed to install a new J-Bolt when corrosion prevents proper tensioning of a new bag."

- 2) (need to address the issues of

monitoring bag failure incidents and minimizing them by prompt actions, such as:)

" all employees who work in the melting / Baghouse area frequently observe and monitor baghouse performance and report excessive emissions to the (area supervisor). ~~the area supervisor~~

To enhance response time, the (salifix operator) who is stationed at the baghouse during his entire shift will be equipped with a 2-way radio and will be designated to immediately begin locating the smoking section. "

Su

March 2, 1995

Chattanooga-Hamilton County
Air Pollution Control Bureau
3511 Rossville Boulevard
Chattanooga, Tennessee 37407-2495

Suggestions, Dennis.

Dear Ms. Arnst:

In response to your letter of February 22, 1995, we offer the following explanation.

Our cupola baghouse has 21 sections. Each section is capable of being isolated by closing the damper to the section with a pneumatic operator. This damper is closed when the bags are being shaken down or when one or more bags ^{leak}. ~~It is not uncommon for the cupola operator to have to isolate one or more sections due to leaking bags. By the very nature of air currents in and around the baghouse, there is not a precise method of determining which section(s) may have leaking bags. Normal troubleshooting procedure is to close the damper to the section(s) that is suspected of having a leak and then to observe the baghouse to determine if the smoking has subsided. If it is still smoking, another section is closed. This procedure may require closing multiple section(s) before smoking ceases, and may require an excess of one half hour. Leaking bags would then be changed before the next day of cupola operations.~~

more than one
all employees working around the cupola are instructed to observe and monitor the baghouse during cupola operations on February 14, 1995, the baghouse was observed to be smoking. The troubleshooting resulted in closing three sections before smoking ceased. The nightly maintenance discovered bags in two sections that had been detached from the caps. These bags were replaced and the baghouse started the following day without smoking.

① Such incidents are not the result of improper maintenance nor do we take them lightly. Immediately upon becoming aware of a smoking condition, we respond with efforts to eliminate the emissions. ~~Again, the nature of the baghouse reduces the likelihood that such a condition can be corrected within five minutes. Therefore we are reviewing our log-keeping and reporting procedures to insure compliance with the regulation.~~ *in addition,*

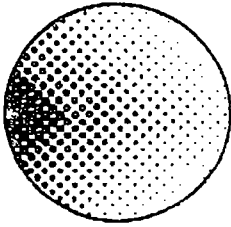
If you require further information (or want to discuss this), do not hesitate to contact me at 752-3825 or Jim Smallwood at 752-3910.

Respectfully submitted,

* P (suggested) ① see back page.

Wayne A. Berry *DENNIS*
Plant Manager

WAB:tr



Chattanooga – Hamilton County Air Pollution Control Bureau

3511 Rossville Boulevard • Chattanooga, Tennessee 37407-2495
(615) 867-4321 Telefax (615) 867 4348

February 22, 1995

Certified Mail No. P 404 891 707
Return Receipt Requested

RECEIVED

FEB 22 1995

Plant Engineering

Mr. Dennis Urbaniak
U.S. Pipe and Foundry
2701 Chestnut Street
Chattanooga, Tennessee 37408

RE: Visible Emission Observation

Dear Mr. Urbaniak:

On February 14, 1995, from 10:31 a.m. to 10:46 a.m., a certified observer from the Chattanooga-Hamilton county Air Pollution Control Bureau evaluated visible emissions associated with equipment, activity or operations at your facility located at 2701 Chestnut Street.

The source of the visible emissions was the baghouse roof vent exit serving melting facilities (Certificate No. 3321-30400301-40C). The emissions were observed in excess of the 20% opacity limitation. A copy of the visible emissions evaluation is enclosed.

A report concerning this occurrence must be filed with this office in accordance with the provisions of Section 4-12 of the Chattanooga Air Pollution Control Ordinance. The report will be reviewed and, if there is insufficient justification for the Director to excuse the violation, further action may be taken.

If you have any questions, please contact Robert H. Colby, Bureau Director.

Cordially,

Diane L. Arnst
Staff Attorney

Enclosure



100% Recycled Paper

MWPS011928

FORM 31-62 CASE P

SOURCE NAME		OBSERVATION DATE				START TIME				STOP TIME			
U.S. Pipe		2/14/95				10:31 AM				10:46 AM			
ADDRESS		SEC				SEC							
2721 Chestnut Street		MIN				MIN							
(P.O. Box 311)		0 15 30 45				0 15 30 45							
CITY	STATE	1				2				3			
Chattanooga	TN	70 75 75 75				31							
PHONE	CERTIFICATE OF OPERATION	2				3				4			
752-3912		75 75 70 70				32							
PROCESS EQUIPMENT	OPERATING MODE	3				33							
		75 80 80 75				34							
CONTROL EQUIPMENT	OPERATING MODE	4				35							
221-3000-301-400		80 80 80 80				36							
DESCRIBE EMISSION POINT		5				37							
START	STOP	6				38							
HEIGHT ABOVE GROUND LEVEL	HEIGHT RELATIVE TO OBSERVER	7				39							
START	STOP	8				40							
DISTANCE FROM OBSERVER	DIRECTION FROM OBSERVER	9				41							
START	STOP	10				42							
DESCRIBE EMISSIONS		11				43							
START	STOP	12				44							
EMISSION COLOR	PLUME TYPE: CONTINUOUS <input checked="" type="checkbox"/>	13				45							
START	STOP	14				46							
WATER DROPLETS PRESENT:	FUGITIVE <input type="checkbox"/> INTERMITTENT <input type="checkbox"/>	15				47							
NO <input type="checkbox"/> YES <input type="checkbox"/>	IF WATER DROPLET PLUME:	16				48							
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED	ATTACHED <input type="checkbox"/> DETACHED <input type="checkbox"/>	17				49							
START	STOP	18				50							
DESCRIBE BACKGROUND		19				51							
START	STOP	20				52							
BACKGROUND COLOR	SKY CONDITIONS	21				53							
START	STOP	22				54							
WIND SPEED	WIND DIRECTION	23				55							
START	STOP	24				56							
AMBIENT TEMP.	WET BULB TEMP.	25				57							
START	STOP	26				58							
SOURCE LAYOUT SKETCH	DRAW NORTH ARROW	27				59							
		28				60							
COMMENTS		TOTAL TIME LIMITS EXCEEDED				NUMBER OF READINGS ABOVE							
1257254		15 minutes				20				I WERE 60			
		RANGE OF OPACITY READINGS				MINIMUM				MAXIMUM			
		65				80							
		OBSERVER'S NAME (PRINT)											
		Bobby Marsee											
		OBSERVER'S SIGNATURE				DATE							
		Bobby Marsee				2/14/95							
		ORGANIZATION											
		Chattanooga-Hamilton County Air Poll. Control											
I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS		CERTIFIED BY				DATE							
SIGNATURE		State of TN				8-30-94							
TITLE		VERIFIED BY				DATE							
		Alvin F. L...											